

GMAT CRITICAL REASONING SAMPLE QUESTIONS

Instruction: This file contains 205 sample questions on GMAT Critical Reasoning and explanations for 25 of them. For answers with complete explanations to other 180 questions, please order the [Complete GMAT Prep Course](#) which includes [Verbal Study Guide](#), [Essay Prep Course](#), and [Math Review](#).

1. Which of the following best completes the passage below?

In a survey of job applicants, two-fifths admitted to being at least a little dishonest. However, the survey may underestimate the proportion of job applicants who are dishonest, because_____.

- A. some dishonest people taking the survey might have claimed on the survey to be honest
- B. some generally honest people taking the survey might have claimed on the survey to be dishonest
- C. some people who claimed on the survey to be at least a little dishonest may be very dishonest
- D. some people who claimed on the survey to be dishonest may have been answering honestly
- E. some people who are not job applicants are probably at least a little dishonest

Answer with explanation:

A is the best answer.

If applicants who are in fact dishonest claimed to be honest, the survey results would show a smaller proportion of dishonest applicants than actually exists. Therefore, this choice is the best answer. B is inappropriate because generally honest applicants who claimed to be dishonest could contribute to the overestimation, but not to the underestimation, of dishonest applicants. D is inappropriate because applicants who admitted their dishonesty would not contribute to an underestimation of the proportion of dishonest applicants. C and E are inappropriate because the argument is concerned neither with degrees of dishonesty nor with the honesty of non-applicants.

2. The average life expectancy for the United States population as a whole is 73.9 years, but children born in Hawaii will live an average of 77 years, and those born in Louisiana, 71.7 years. If a newlywed couple from Louisiana were to begin their family in Hawaii, therefore, their children would be expected to live longer than would be the case if the family remained in Louisiana.

Which of the following, if true, would most seriously weaken the conclusion drawn in the passage?

- A. Insurance company statisticians do not believe that moving to Hawaii will significantly lengthen the average Louisianan's life.
- B. The governor of Louisiana has falsely alleged that statistics for his state are inaccurate.
- C. The longevity ascribed to Hawaii's current population is attributable mostly to genetically determined factors.
- D. Thirty percent of all Louisianans can expect to live longer than 77 years.

- E. Most of the Hawaiian Islands have levels of air pollution well below the national average for the United States.

Answer with explanation:

C is the best answer.

This choice suggests that a significant proportion of Hawaii's population is genetically predisposed to be long lived. Since Louisianans are not necessarily so predisposed, and since the Louisianans' children will acquire their genetic characteristics from their parents, not from their birthplace, this choice presents a reason to doubt that Hawaiian born children of native Louisianans will have an increased life expectancy. Therefore, this choice is the best answer. Because the conclusion concerns people born in Hawaii, not the average Louisianan, A does not weaken the conclusion. Because the governor's allegation is false, it cannot affect the conclusion. D fails to weaken the conclusion because it is consistent with the information given and the conclusion about life expectancy. By suggesting that Hawaii's environment is in one respect particularly healthy, E supports the conclusion.

3. The average life expectancy for the United States population as a whole is 73.9 years, but children born in Hawaii will live an average of 77 years, and those born in Louisiana, 71.7 years. If a newlywed couple from Louisiana were to begin their family in Hawaii, therefore, their children would be expected to live longer than would be the case if the family remained in Louisiana.

Which of the following statements, if true, would most significantly strengthen the conclusion drawn in the passage?

- A. As population density increases in Hawaii, life expectancy figures for that state are likely to be revised downward.
- B. Environmental factors tending to favor longevity are abundant in Hawaii and less numerous in Louisiana.
- C. Twenty-five percent of all Louisianans who move to Hawaii live longer than 77 years.
- D. Over the last decade, average life expectancy has risen at a higher rate for Louisianans than for Hawaiians.
- E. Studies show that the average life expectancy for Hawaiians who move permanently to Louisiana is roughly equal to that of Hawaiians who remain in Hawaii.

Answer with explanation:

If B is true, the greater abundance of longevity-promoting environmental factors it mentions is probably at least partly responsible for the higher life expectancy in Hawaii. Children born in Hawaii benefit from these factors from birth, and thus Louisianans who have children in Hawaii increase their children's chances of living longer. Therefore, B is the best answer. If life expectancy in Hawaii is likely to be falling, as A says, the argument is weakened rather than strengthened. C and E, in the absence of other relevant information, have no bearing on the conclusion; thus, they are inappropriate. D is irrelevant, because the information it mentions about rates would already have been incorporated into the statistics cited in the passage.

4. Insurance Company X is considering issuing a new policy to cover services required by elderly people who suffer from diseases that afflict the elderly. Premiums for the policy must be low enough to attract customers. Therefore, Company X is concerned that the income from the policies would not be sufficient to pay for the claims that would be made.

Which of the following strategies would be most likely to minimize Company X's losses on the policies?

- A. Attracting middle-aged customers unlikely to submit claims for benefits for many years.
- B. Insuring only those individuals who did not suffer any serious diseases as children
- C. Including a greater number of services in the policy than are included in other policies of lower cost
- D. Insuring only those individuals who were rejected by other companies for similar policies
- E. Insuring only those individuals who are wealthy enough to pay for the medical services

Answer with explanation:

Insurance companies can improve the ratio of revenues to claims paid, thus minimizing losses, if they insure as many people belonging to low-risk groups as they can. Because the strategy described in A adds a low-risk group to the pool of policyholders, this choice is the best answer. B is irrelevant, since no link is established between childhood diseases and diseases affecting the elderly. C is inappropriate, since increasing the number of services covered is unlikely to minimize losses. D is inappropriate, since it would increase the likelihood that claims against the policy will be made. Because policyholders will file claims against the policy for services covered rather than pay for the cost of the services themselves, E is irrelevant.

5. A program instituted in a particular state allows parents to prepay their children's future college tuition at current rates. The program then pays the tuition annually for the child at any of the state's public colleges in which the child enrolls. Parents should participate in the program as a means of decreasing the cost for their children's college education.

Which of the following, if true, is the most appropriate reason for parents NOT to participate in the program?

- A. the parents are unsure about which public college in the state the child will attend.
- B. The amount of money accumulated by putting the prepayment funds in an interest-bearing account today will be greater than the total cost of tuition for any of the public colleges when the child enrolls.
- C. The annual cost of tuition at the state's public colleges is expected to increase at a faster rate than the annual increase in the cost of living.
- D. Some of the state's public colleges are contemplating large increases in tuition next year.
- E. The prepayment plan would not cover the cost of room and board at any of the state's public colleges.

Answer with explanation:

The passage recommends that parents participate in a tuition prepayment program as a means of decreasing the cost of their children's future college education. If B is true, placing the funds in an interest bearing account would be more cost-effective than participating in the prepayment program. Therefore, B would be a reason for NOT participating and is the best

answer. A is not clearly relevant to deciding whether to participate since the program applies to whatever public college the child might attend. C and D, by stating that tuition will increase, provide support for participating in the program. E is not clearly relevant to deciding whether to participate, since the expenses mentioned fall outside the scope of the program.

6. Company Alpha buys free-travel coupons from people who are awarded the coupons by Bravo Airlines for flying frequently on Bravo airplanes. The coupons are sold to people who pay less for the coupons than they would pay by purchasing tickets from Bravo. This making of coupons results in lost revenue for Bravo.

To discourage the buying and selling of free-travel coupons, it would be best for Bravo Airlines to restrict the

- A. number of coupons that a person can be awarded in a particular year
- B. use of the coupons to those who were awarded the coupons and members of their immediate families
- C. days that the coupons can be used to Monday through Friday
- D. amount of time that the coupons can be used after they are issued
- E. number of routes on which travelers can use the coupons

Answer with explanation:

Restricting use of the coupons to the immediate families of those awarded them, as B suggests, would make the coupons valueless for anyone else, so that marketing the coupons would no longer be possible. The coupons, however, would still allow the people to whom Bravo gives them to enjoy free travel. Thus, awarding coupons would remain a strong incentive to frequent travel on Bravo. Therefore, B is the best answer. A would do nothing to reduce the resale value of the coupons. C, D and E all not only fail to prevent Alpha's coupon sales from competing with Bravo's own ticket sales, but also potentially reduce the usefulness of the coupons to the people to whom they are awarded.

7. The ice on the front windshield of the car had formed when moisture condensed during the night. The ice melted quickly after the car was warmed up the next morning because the defrosting vent, which blows on the front windshield, was turned on full force.

Which of the following, if true, most seriously jeopardizes the validity of the explanation for the speed with which the ice melted?

- A. The side windows had no ice condensation on them
- B. Even though no attempt was made to defrost the back window, the ice there melted at the same rate as did the ice on the front windshield.
- C. The speed at which ice on a window melts increases as the temperature of the air blown on the window increases
- D. The warm air from the defrosting vent for the front windshield cools rapidly as it dissipates throughout the rest of the car.
- E. The defrosting vent operates efficiently even when the heater, which blows warm air toward the feet or faces of the driver and passengers, is on.

Answer with explanation:

The speed with which the ice on the windshield melted is attributed to the air blowing full force from the defrosting vent onto the front windshield. This explanation of B is undermined if, as B states, no attempt was made to defrost the back window and the ice on the back window melted as quickly as did the ice on the windshield. Therefore, B is the best answer. In the absence of other information, the lack of ice condensation on the side windows that is mentioned in A is irrelevant to the validity of the explanation. C might support the explanation, since the air from the defrosting vent was warm. Neither of D and E gives a reason to doubt that air from the vent caused the ice's melting, and thus neither jeopardizes the explanation's validity.

8. To prevent some conflicts of interest, Congress could prohibit high-level government officials from accepting positions as lobbyists for three years after such officials leave government service. One such official concluded, however, that such a prohibition would be unfortunate because it would prevent high-level government officials from earning a livelihood for three years.

The official's conclusion logically depends on which of the following assumptions?

- A. Laws should not restrict the behavior of former government officials.
- B. Lobbyists are typically people who have previously been high-level government officials.
- C. Low-level government officials do not often become lobbyists when they leave government service.
- D. High-level government officials who leave government service are capable of earning a livelihood only as lobbyists.
- E. High-level government officials who leave government service are currently permitted to act as lobbyists for only three years.

Answer with explanation:

The official argues that prohibiting high-level government officials from accepting positions as lobbyists for three years would prevent the officials from earning a livelihood for that period. The reasoning tacitly excludes the possibility of such officials earning a living through work other than lobbying. Therefore, D, which expresses this tacit assumption, is the best answer. The official's argument does not depend on the assumption in A, since the argument would not be invalidated if some restrictions on the behavior of government officials were desirable. The official's argument does not depend on the assumption in B, since the argument would not be invalidated if lobbyists were not typically former high-level government officials. The official's argument does not depend on the assumption in C, since the argument would not be invalidated if former low-level government officials did often become lobbyists. The official's argument does not depend on the assumption in E, since the argument would not be invalidated if former high-level government officials could act as lobbyists indefinitely.

9. A conservation group in the United States is trying to change the long-standing image of bats as frightening creatures. The group contends that bats are feared and persecuted solely because they are shy animals that are active only at night.

Which of the following, if true, would cast the most serious doubt on the accuracy of the group's contention?

- A. Bats are steadily losing natural roosting places such as caves and hollow trees and are thus turning to more developed areas for roosting.
- B. Bats are the chief consumers of nocturnal insects and thus can help make their hunting territory more pleasant for humans.
- C. Bats are regarded as frightening creatures not only in the United States but also in Europe, Africa, and South America.
- D. Raccoons and owls are shy and active only at night; yet they are not generally feared and persecuted.
- E. People know more about the behavior of other greatly feared animal species, such as lions, alligators, and snakes, than they do about the behavior of bats.

Answer with explanation:

The group's contention suggests that animals that are shy and active at night are feared and persecuted for that reason. D establishes that raccoons and owls are shy and active at night, but that they are neither feared nor persecuted. Therefore, D is the best answer. Although an increasing prevalence of bats might explain the importance of addressing people's fear of bats, A does not address the original causes of that fear. B and E, while relevant to the rationality of people's fear of bats, do not affect the assessment of the accuracy of the group's contention. That bats are feared outside the United States, as C states, does not conflict with the group's explanation for fear of bats in the United States.

10. Meteorite explosions in the Earth's atmosphere as large as the one that destroyed forests in Siberia, with approximately the force of a twelve-megaton nuclear blast, occur about once a century.

The response of highly automated systems controlled by complex computer programs to unexpected circumstances is unpredictable.

Which of the following conclusions can most properly be drawn, if the statements above are true, about a highly automated nuclear-missile defense system controlled by a complex computer program?

- A. Within a century after its construction, the system would react inappropriately and might accidentally start a nuclear war.
- B. The system would be destroyed if an explosion of a large meteorite occurred in the Earth's atmosphere.
- C. It would be impossible for the system to distinguish the explosion of a large meteorite from the explosion of a nuclear weapon.
- D. Whether the system would respond inappropriately to the explosion of a large meteorite would depend on the location of the blast.
- E. It is not certain what the system's response to the explosion of a large meteorite would be, if its designers did not plan for such a contingency.

Answer with explanation:

If the defense system designers did not plan for the contingency of large meteorite explosions, such explosions would, from the system's perspective, be unexpected. The system's response

to such explosions is consequently unpredictable. E expresses this inference and is thus the best answer. A cannot be inferred since it is consistent with the stated information that no meteorite explosion will occur within a century. B cannot be inferred since there is no information to suggest that meteorite explosions in the atmosphere would destroy the system. C cannot be inferred since it is consistent with the stated information that an appropriately designed nuclear defense system might be able to distinguish nuclear from meteorite explosions. D cannot be inferred since there is no information to suggest that the location of blasts would determine the appropriateness of defense system's response.

11. The fewer restrictions there are on the advertising of legal services, the more lawyers there are who advertise their services, and the lawyers who advertise a specific service usually charge less for that service than lawyers who do not advertise. Therefore, if the state removes any of its current restrictions, such as the one against advertisements that do not specify fee arrangements, overall consumer legal costs will be lower than if the state retains its current restrictions.

If the statements in the passage are true, which of the following must be true?

- A. Some lawyers who now advertise will charge more for specific services if they do not have to specify fee arrangements in the advertisements.
- B. More consumers will use legal services if there are fewer restrictions on the advertising of legal service.
- C. If the restriction against advertisements that do not specify fee arrangements is removed, more lawyers will advertise their services.
- D. If more lawyers advertise lower prices for specific services, some lawyers who do not advertise will also charge less than they currently charge for those services.
- E. If the only restrictions on the advertising of legal services were those that apply to every type of advertising, most lawyers would advertise their services.

Answer with explanation:

The supposition in c involves reducing by one the number of restrictions on the advertising of legal services. Any such reduction will, if the stated correlation exists, be accompanied by an increase in the number of lawyers advertising their services, as C predicts. Therefore, C is the best answer. A does not follow from the stated information since it is still possible that no lawyers would raise their fees. B does not follow from the stated information since it is still possible that there would be no increase in the number of consumers using legal services. D does not follow the stated information since it is still possible that none of the lawyers who do not advertise would decide to lower their prices. E does not follow the stated information since it is still possible that few lawyers would advertise their legal services.

12. The fewer restrictions there are on the advertising of legal services, the more lawyers there are who advertise their services, and the lawyers who advertise a specific service usually charge less for that service than lawyers who do not advertise. Therefore, if the state removes any of its current restrictions, such as the one against advertisements that do not specify fee arrangements, overall consumer legal costs will be lower than if the state retains its current restrictions.

Which of the following, if true, would most seriously weaken the argument concerning overall consumer legal costs?

- A. The state has recently removed some other restrictions that had limited the advertising of legal services.
- B. The state is unlikely to remove all of the restrictions that apply solely to the advertising of legal services.
- C. Lawyers who do not advertise generally provide legal services of the same quality as those provided by lawyers who do advertise.
- D. Most lawyers who now specify fee arrangements in their advertisements would continue to do so even if the specification were not required.
- E. Most lawyers who advertise specific services do not lower their fees for those services when they begin to advertise.

Answer with explanation:

If E is true, the lawyers who begin advertising when the restriction is removed might all be among those who do not lower their fees on beginning to advertise, in which case no decrease in consumer legal costs will occur. Therefore, E weakens the argument and is the best answer. Since A does not relate the recent removal of restrictions to changes in consumer legal costs, it alone does not weaken the argument. Since the argument is unconcerned with whatever restrictions remain in effect but focuses only on those that will be removed, B does not weaken the argument. C and D are irrelevant to an evaluation of the argument, which is concerned with cost considerations, not with the quality of legal services or the content of lawyers' advertisements.

13. Defense Department analysts worry that the ability of the United States to wage a prolonged war would be seriously endangered if the machine-tool manufacturing base shrinks further. Before the Defense Department publicly connected this security issue with the import quota issue, however, the machine-tool industry raised the national security issue in its petition for import quotas.

Which of the following, if true, contributes most to an explanation of the machine-tool industry's raising the issue above regarding national security?

- A. When the aircraft industries retooled, they provided a large amount of work for too builders.
- B. The Defense Department is only marginally concerned with the effects of foreign competition on the machine-tool industry.
- C. The machine-tool industry encountered difficulty in obtaining governmental protection against imports on grounds other than defense.
- D. A few weapons important for defense consist of parts that do not require extensive machining.
- E. Several federal government programs have been designed which will enable domestic machine-tool manufacturing firms to compete successfully with foreign toolmakers.

Answer with explanation:

Since the size of the machine-tool manufacturing base presumably has implications in area beyond national security, one might find it surprising that the industry raised the security issue in its petition. C, the best answer, explains that the industry turned to this issue because others tended to be ineffective in efforts to obtain governmental protection. A explains why the industry might NOT raise the security issue, since it suggests that it might have raised the issue of jobs instead. B explains why the industry might NOT raise the security issue about import quotas, since it suggests that the Defense Department had no interest in import quotas whatsoever. Neither of D and E is relevant to the industry's choice of strategy for securing import quotas.

14. Opponents of laws that require automobile drivers and passengers to wear seat belts argue that in a free society people have the right to take risks as long as the people do not harm other as a result of taking the risks. As a result, they conclude that it should be each person's decision whether or not to wear a seat belt.

Which of the following, if true, most seriously weakens the conclusion drawn above?

- A. Many new cars are built with seat belts that automatically fasten when someone sits in the front seat.
- B. Automobile insurance rates for all automobile owners are higher because of the need to pay for the increased injuries or deaths of people not wearing seat belts.
- C. Passengers in airplanes are required to wear seat belts during takeoffs and landings.
- D. The rate of automobile fatalities in states that do not have mandatory seat belt laws is greater than the rate of fatalities in states that do have such laws.
- E. In automobile accidents, a greater number of passengers who do not wear seat belts are injured than are passengers who do wear seat belts.

Answer with explanation:

The principle that people are entitled to risk injury provided they do not thereby harm others fails to justify the individual's right to decide not to wear seat belts if it can be shown, as B shows, that that decision does harm others. Therefore, B is the best answer. A suggests that the law may be irrelevant in some cases, but it does not address the issue of the law's legitimacy. C cites a requirement analogous to the one at issue, but its existence alone does not bear on the legitimacy of the one at issue. The argument implicitly concedes that individuals take risks by not wearing seat belts; therefore, D and E, which simply confirm this concession, do not weaken the conclusion.

15. The cost of producing radios in Country Q is ten percent less than the cost of producing radios in Country Y. even after transportation fees and tariff charges are added, it is still cheaper for a company to import radios from Country Q to Country Y than to produce radios in Country Y.

The statements above, if true, best support which of the following assertions?

- A. labor costs in Country Q are ten percent below those in Country Y.
- B. importing radios from Country Q to Country Y will eliminate ten percent of the manufacturing jobs in Country Y.

- C. the tariff on a radio imported from Country Q to Country Y is less than ten percent of the cost of manufacturing the radio in Country Y.
- D. the fee for transporting a radio from Country Q to Country Y is more than ten percent of the cost of manufacturing the radio in Country Q.
- E. it takes ten percent less time to manufacture a radios in Country Q than it does in Country Y.

Answer with explanation:

If the tariff on importing radios from Country Q to Country Y were as high as ten percent or more of the cost of producing radios in Y, then, contrary to what the passage says, the cost of importing radios from Q to Y would be equal to or more than the cost of producing radios in Y. thus, the tariff cannot be that high, and C is the best answer. A and E give possible partial explanations for the cost difference, but neither is supported by the passage because the cost advantage in Q might be attributable to other factors. B and D are both consistent with the information in the passage, but the passage provides no evidence to support them.

16. During the Second World War, about 375,000 civilians died in the United States and about 408,000 members of the United States armed forces died overseas. On the basis the those figures, it can be concluded that it was not much more dangerous to be overseas in the armed forces during the Second World War than it was to stay at home as a civilian.

Which of the following would reveal most clearly the absurdity of the conclusion drawn above?

- A. Counting deaths among members of the armed forces who served in the United State in addition to deaths among members of the armed forces serving overseas
- B. Expressing the difference between the numbers of deaths among civilians and members of the armed forces as a percentage of the total number of deaths
- C. Separating deaths caused by accidents during service in the armed forces from deaths caused by combat injuries
- D. Comparing death rates per thousand members of each group rather than comparing total numbers of deaths
- E. Comparing deaths caused by accidents in the United States to deaths caused by combat in the armed forces

Answer with explanation:

Concluding from the similar numbers of deaths in two groups that the relative danger of death was similar for both groups is absurd if, as here, one group was far smaller. D exposes this absurdity by pointing out the need to compare death rates of the two groups, which would reveal the higher death rate for the smaller group. Therefore, D is the best answer. Since the conclusion acknowledges the difference between the number of civilian and armed forces deaths, expressing this difference as a percentage, as suggested by B, is beside the point. A is inappropriate because it simply adds a third group to the two being compared. Because cause of death is not at issue, C and E are irrelevant.

17. Toughened hiring standards have not been the primary cause of the present staffing shortage in public schools. The shortage of teachers is primarily caused by the fact that in

recent years teachers have not experienced any improvements in working conditions and their salaries have not kept pace with salaries in other professions.

Which of the following, if true, would most support the claims above?

- A. Many teachers already in the profession would not have been hired under the new hiring standards.
- B. Today more teachers are entering the profession with a higher educational level than in the past.
- C. Some teachers have cited higher standards for hiring as a reason for the current staffing shortage.
- D. Many teachers have cited low pay and lack of professional freedom as reasons for their leaving the profession.
- E. Many prospective teachers have cited the new hiring standards as a reason for not entering the profession.

Answer with explanation:

The passage rejects one explanation of the shortage of teachers—that it results from toughened hiring standards—and advances an alternative—that it results from deficiencies in pay and working conditions. D provides corroborative evidence for the latter explanation by suggesting that, for many former teachers, poor pay and working conditions were reasons for their quitting the profession. Therefore, D is the best answer. A, C and E provide evidence that tends to implicate new hiring standards in the staffing shortage, and thus support the explanation that the passage rejects. B describes what may be a result of the new hiring standards, but it provides no evidence favoring one explanation of the staffing shortage over the other.

18. A proposed ordinance requires the installation in new homes of sprinklers automatically triggered by the presence of a fire. However, a home builder argued that because more than ninety percent of residential fires are extinguished by a household member, residential sprinklers would only marginally decrease property damage caused by residential fires.

Which of the following, if true, would most seriously weaken the home builder's argument?

- A. most individuals have no formal training in how to extinguish fires.
- B. Since new homes are only a tiny percentage of available housing in the city, the new ordinance would be extremely narrow in scope.
- C. The installation of smoke detectors in new residences costs significantly less than the installation of sprinklers.
- D. In the city where the ordinance was proposed, the average time required by the fire department to respond to a fire was less than the national average.
- E. The largest proportion of property damage that results from residential fires is caused by fires that start when no household member is present.

Answer with explanation:

The home builder reasons from evidence about most residential fires to a conclusion about the effectiveness of sprinklers in preventing property damage. But this reasoning is faulty because of the possibility that most of the property damage results from the minority of fires excluded from the builder's evidence. That possibility is realized if E is true. Thus, E is the best answer.

Because the builder's argument concerns neither the cost of installing sprinklers nor a comparison with fire department performance in other locations, C and D are irrelevant. The evidence the home builder cites suggests that formal training is not needed in order to extinguish fires. So A is not the correct answer. B supports the builder's view that requiring sprinklers would have a limited effect.

19. Even though most universities retain the royalties from faculty members' inventions, the faculty members retain the royalties from books and articles they write. Therefore, faculty members should retain the royalties from the educational computer software they develop.

The conclusion above would be more reasonably drawn if which of the following were inserted into the argument as an additional premise?

- A. Royalties from inventions are higher than royalties from educational software programs.
- B. Faculty members are more likely to produce educational software programs than inventions.
- C. Inventions bring more prestige to universities that do books and articles.
- D. In the experience of most universities, educational software programs are more marketable than are books and articles.
- E. In terms of the criteria used to award royalties, educational software programs are more nearly comparable to books and articles than to inventions.

Answer with explanation:

The passage concludes that, where royalty retention of faculty members' works is concerned, software should be treated as books and articles are, not as inventions are. The conclusion requires an additional premise establishing that software is, in relevant respects, more comparable to books and articles than to inventions. E provides this kind of premise and is therefore the best answer. A, B, C and D each describe some difference between software and inventions, or between inventions and books and articles, or between software and books and articles. However, none establishes the required relationship among inventions, software, and books and articles.

20. Increase in the level of high-density lipoprotein (HDL) in the human bloodstream lowers bloodstream-cholesterol levels by increasing the body's capacity to rid itself of excess cholesterol. Levels of HDL in the bloodstream of some individuals are significantly increased by a program of regular exercise and weight reduction.

Which of the following can be correctly inferred from the statements above?

- A. Individuals who are underweight do not run any risk of developing high levels of cholesterol in the bloodstream.
- B. Individuals who do not exercise regularly have a high risk of developing high levels of cholesterol in the bloodstream late in life.
- C. Exercise and weight reduction are the most effective methods of lowering bloodstream cholesterol levels in humans.
- D. A program of regular exercise and weight reduction lowers cholesterol levels in the bloodstream of some individuals.

- E. Only regular exercise is necessary to decrease cholesterol levels in the bloodstream of individuals of average weight.

Answer with explanation:

If increased HDL levels cause reduced cholesterol levels and if a certain program increases HDL levels in some individuals, it follows that some individuals who undertake that program achieve reduced cholesterol levels. D is thus correctly inferable and the best answer. A cannot be correctly inferred because the statements do not establish any connection between being underweight and levels of cholesterol. Neither of B and E is inferable, since there is no indication that exercise alone is either necessary or sufficient to increase HDL levels or to decrease cholesterol levels. C is inappropriate because other methods of cholesterol reduction are not addressed.

21. When limitations were in effect on nuclear-arms testing, people tended to save more of their money, but when nuclear-arms testing increased, people tended to spend more of their money. The perceived threat of nuclear catastrophe, therefore, decreases the willingness of people to postpone consumption for the sake of saving money.

The argument above assumes that

- A. the perceived threat of nuclear catastrophe has increased over the years.
- B. most people supported the development of nuclear arms
- C. people's perception of the threat of nuclear catastrophe depends on the amount of nuclear-arms testing being done
- D. the people who saved the most money when nuclear-arms testing was limited were the ones who supported such limitations
- E. there are more consumer goods available when nuclear-arms testing increases

Answer with explanation:

On the basis of an observed correlation between arms testing and people's tendency to save money, the argument concludes that there is a causal connection between a perception of threat and the tendency not to save. That connection cannot be made unless C, linking the perception of threat to the amount of testing being done, is assumed to be true. Therefore, C is the best answer. The conclusion does not depend on there having been an increase in the perceived threat over time or on how many people supported the development of nuclear arms. Hence, neither of A and B is assumed. The argument does not deal with those who supported arms limitations or with the availability of consumer goods. Thus, D and E are not assumed.

22. Which of the following best completes the passage below?

People buy prestige when they buy a premium product. They want to be associated with something special. Mass-marketing techniques and price-reduction strategies should not be used because_____.

- A. affluent purchasers currently represent a shrinking portion of the population of all purchasers
- B. continued sales depend directly on the maintenance of an aura of exclusivity
- C. purchasers of premium products are concerned with the quality as well as with the price of the products

- D. expansion of the market niche to include a broader spectrum of consumers will increase profits
- E. manufacturing a premium brand is not necessarily more costly than manufacturing a standard brand of the same product

Answer with explanation:

The incomplete passage calls for an explanation of why price-reduction and mass-marketing methods should not be used for premium products. B, which states that sales of these products require that they appear specials, provides such an explanation. Therefore, B is the best answer. No other choice offers an appropriate explanation. The diminishing proportion of affluent buyers cited in A argues for using price reductions to attract buyers of lesser means. C suggests that purchasers of premium products find reduced prices attractive, and it has not been established that the methods affect quality or perception of quality. D argues for, rather than against, using mass marketing. E is inappropriate, since there is no indication that manufacturing costs are relevant.

23. A cost-effective solution to the problem of airport congestion is to provide high-speed ground transportation between major cities lying 200 to 500 miles apart. The successful implementation of this plan would cost far less than expanding existing airports and would also reduce the number of airplanes clogging both airports and airways.

Which of the following, if true, could be proponents of the plan above most appropriately cite as a piece of evidence for the soundness of their plan?

- A. An effective high-speed ground-transportation system would require major repairs to many highways and mass-transit improvements.
- B. One-half of all departing flights in the nation's busiest airport head for a destination in a major city 225 miles away.
- C. The majority of travelers departing from rural airports are flying to destinations in cities over 600 miles away.
- D. Many new airports are being built in areas that are presently served by high-speed ground-transportation systems.
- E. A large proportion of air travelers are vacationers who are taking long-distance flights.

Answer with explanation:

The plan proposes that high-speed ground transportation would be a less expensive solution to airport congestion than would airport expansion. B indicates that between the cities to be served by the plan there is substantial air travel to which ground transportation would represent an alternative. Therefore, B is the best answer. No other choice could be cited appropriately. A and D both provide some evidence against the plan. A by emphasizing the likely costs of providing high-speed ground transportation is not by itself a solution to airport congestion. D by indicating that such an alternative is not by itself a solution to airport congestion. C and E say that there are many travelers for whom the proposed system would actually provide no alternative.

24. If there is an oil-supply disruption resulting in higher international oil prices, domestic oil prices in open-market countries such as the United States will rise as well, whether such countries import all or none of their oil.

If the statement in the passage concerning oil-supply disruptions is true, which of the following policies in an open-market nation is most likely to reduce the long-term economic impact on that nation of sharp and unexpected increases in international oil prices?

- A. Maintaining the quantity of oil imported at constant yearly levels
- B. Increasing the number of oil tankers in its fleet
- C. Suspending diplomatic relations with major oil-producing nations
- D. Decreasing oil consumption through conservation
- E. Decreasing domestic production of oil

Answer with explanation:

If the statement about oil-supply disruption is true, domestic oil prices in an open-market country will rise when an oil-supply disruption causes increased international oil prices. A reduction in the amount of oil an open-market country consumes could reduce the economic impact of these increases. D gives a way to reduce oil consumption and is thus the best answer. A and E describe policies that could actually increase the long-term impact of increases in international oil prices, so neither of these choices is appropriate. No relationship is established between the economic impact and either the number of oil tankers or diplomatic relations in B and C, so neither of these choices is appropriate.

25. If there is an oil-supply disruption resulting in higher international oil prices, domestic oil prices in open-market countries such as the United States will rise as well, whether such countries import all or none of their oil.

Which of the following conclusions is best supported by the statement in the passage?

- A. Domestic producers of oil in open-market countries are excluded from the international oil market when there is a disruption in the international oil supply.
- B. International oil-supply disruptions have little, if any, effect on the price of domestic oil as long as an open-market country has domestic supplies capable of meeting domestic demand.
- C. The oil market in an open-market country is actually part of the international oil market, even if most of that country's domestic oil is usually sold to consumers within its borders.
- D. Open-market countries that export little or none of their oil can maintain stable domestic oil prices even when international oil prices rise sharply.
- E. If international oil prices rise, domestic distributors of oil in open-market countries will begin to import more oil than they export.

Answer with explanation:

If the oil market in an open-market country were independent, fluctuations in international oil prices would not affect domestic oil prices. However, if the statement about oil-supply disruption is true, it is evidence that domestic oil prices are dependent on the international market and hence that the domestic oil market is a part of the international oil market. Therefore, C is the best answer. B and D are not supported, since each contradicts the claim

that an international oil-supply disruption will lead to rising oil prices in an open-market nation. Nor are A and E supported, since the statement provides information only about the effect of disruption on oil prices, not domestic producers or distributors.

26. The average normal infant born in the United States weighs between twelve and fourteen pounds at the age of three months. Therefore, if a three-month-old child weighs only ten pounds, its weight gain has been below the United States average.

Which of the following indicates a flaw in the reasoning above?

- A. Weight is only one measure of normal infant development.
- B. Some three-month-old children weigh as much as seventeen pounds.
- C. It is possible for a normal child to weigh ten pounds at birth.
- D. The phrase "below average" does not necessarily mean insufficient.
- E. Average weight gain is not the same as average weight.

27. Red blood cells in which the malarial-fever parasite resides are eliminated from a person's body after 120 days. Because the parasite cannot travel to a new generation of red blood cells, any fever that develops in a person more than 120 days after that person has moved to a malaria-free region is not due to the malarial parasite.

Which is the following, if true, most seriously weakens the conclusion above?

- A. The fever caused by the malarial parasite may resemble the fever caused by flu viruses.
- B. The anopheles mosquito, which is the principal insect carrier of the malarial parasite, has been eradicated in many parts of the world.
- C. Many malarial symptoms other than the fever, which can be suppressed with anti-malarial medication, can reappear within 120 days after the medication is discontinued.
- D. In some cases, the parasite that causes malarial fever travels to cells of the spleen, which are less frequently eliminated from a person's body than are red blood cells.
- E. In any region infested with malaria-carrying mosquitoes, there are individuals who appear to be immune to malaria.

28. Fact 1: Television advertising is becoming less effective: the proportion of brand names promoted on television that viewers of the advertising can recall is slowly decreasing.

Fact 2: Television viewers recall commercials aired first or last in a cluster of consecutive commercials far better than they recall commercials aired somewhere in the middle.

Fact 2 would be most likely to contribute to an explanation of fact 1 if which of the following were also true?

- A. The average television viewer currently recalls fewer than half the brand names promoted in commercials he or she saw.
- B. The total time allotted to the average cluster of consecutive television commercials is decreasing.
- C. The average number of hours per day that people spend watching television is decreasing.
- D. The average number of clusters of consecutive commercials per hour of television is increasing.

- E. The average number of television commercials in a cluster of consecutive commercials is increasing.

29. The number of people diagnosed as having a certain intestinal disease has dropped significantly in a rural county this year, as compared to last year. Health officials attribute this decrease entirely to improved sanitary conditions at water-treatment plants, which made for cleaner water this year and thus reduced the incidence of the disease.

Which of the following, if true, would most seriously weaken the health officials' explanation for the lower incidence of the disease?

- A. Many new water-treatment plants have been built in the last five years in the rural county.
- B. Bottled spring water has not been consumed in significantly different quantities by people diagnosed as having the intestinal disease, as compared to people who did not contract the disease.
- C. Because of a new diagnostic technique, many people who until this year would have been diagnosed as having the intestinal disease are now correctly diagnosed as suffering from intestinal ulcers.
- D. Because of medical advances this year, far fewer people who contract the intestinal disease will develop severe cases of the disease.
- E. The water in the rural county was brought up to the sanitary standards of the water in neighboring counties ten years ago.

30. The price the government pays for standard weapons purchased from military contractors is determined by a pricing method called "historical costing." Historical costing allows contractors to protect their profits by adding a percentage increase, based on the current rate of inflation, to the previous year's contractual price.

Which of the following statements, if true, is the best basis for a criticism of historical costing as an economically sound pricing method for military contracts?

- A. The government might continue to pay for past inefficient use of funds.
- B. The rate of inflation has varied considerably over the past twenty years.
- C. The contractual price will be greatly affected by the cost of materials used for the products.
- D. Many taxpayers question the amount of money the government spends on military contracts.
- E. The pricing method based on historical costing might not encourage the development of innovative weapons.

31. Some who favor putting governmental enterprises into private hands suggest that conservation objectives would in general be better served if private environmental groups were put in charge of operating and financing the national park system, which is now run by the government.

Which of the following, assuming that it is a realistic possibility, argues most strongly against the suggestion above?

- A. Those seeking to abolish all restrictions on exploiting the natural resources of the parks might join the private environmental groups as members and eventually take over their leadership.
- B. Private environmental groups might not always agree on the best ways to achieve conservation objectives.
- C. If they wished to extend the park system, the private environmental groups might have to seek contributions from major donors and general public.
- D. There might be competition among private environmental groups for control of certain park areas.
- E. Some endangered species, such as the California condor, might die out despite the best efforts of the private environmental groups, even if those groups are not hampered by insufficient resources.

32. A recent spate of launching and operating mishaps with television satellites led to a corresponding surge in claims against companies underwriting satellite insurance. As a result, insurance premiums shot up, making satellites more expensive to launch and operate. This, in turn, has added to the pressure to squeeze more performance out of currently operating satellites.

Which of the following, if true, taken together with the information above, best supports the conclusion that the cost of television satellites will continue to increase?

- A. Since the risk to insurers of satellites is spread over relatively few units, insurance premiums are necessarily very high.
- B. When satellites reach orbit and then fail, the causes of failure are generally impossible to pinpoint with confidence.
- C. The greater the performance demands placed on satellites, the more frequently those satellites break down.
- D. Most satellites are produced in such small numbers that no economies of scale can be realized.
- E. Since many satellites are built by unwieldy international consortia, inefficiencies are inevitable.

33. Rural households have more purchasing power than do urban or suburban households at the same income level, since some of the income urban and suburban households use for food and shelter can be used by rural households for other needs.

Which of the following inferences is best supported by the statement made above?

- A. The average rural household includes more people than does the average urban or suburban household.
- B. Rural households have lower food and housing costs than do either urban or suburban households.
- C. Suburban households generally have more purchasing power than do either rural or urban households.
- D. The median income of urban and suburban households is generally higher than that of rural households.

- E. All three types of households spend more of their income on food and housing than on all other purchases combined.

34. In 1985 state border colleges in Texas lost the enrollment of more than half, on average, of the Mexican nationals they had previously served each year. Teaching faculties have alleged that this extreme drop resulted from a rise in tuition for international and out-of-state students from \$ 40 to \$ 120 per credit hour.

Which of the following, if feasible, offers the best prospects for alleviating the problem of the drop in enrollment of Mexican nationals as the teaching faculties assessed it?

- A. Providing grants-in-aid to Mexican nationals to study in Mexican universities.
- B. Allowing Mexican nationals to study in Texas border colleges and to pay in-state tuition rates, which are the same as the previous international rate
- C. Reemphasizing the goals and mission of the Texas state border colleges as serving both in-state students and Mexican nationals
- D. Increasing the financial resources of Texas colleges by raising the tuition for in-state students attending state institutions
- E. Offering career counseling for those Mexican nationals who graduate from state border colleges and intend to return to Mexico

35. Affirmative action is good business. So asserted the National Association of Manufacturers while urging retention of an executive order requiring some federal contractors to set numerical goals for hiring minorities and women. "Diversity in work force participation has produced new ideas in management, product development, and marketing," the association claimed.

The association's argument as it is presented in the passage above would be most strengthened if which of the following were true?

- A. The percentage of minority and women workers in business has increased more slowly than many minority and women's groups would prefer.
- B. Those businesses with the highest percentages of minority and women workers are those that have been the most innovative and profitable.
- C. Disposable income has been rising as fast among minorities and women as among the population as a whole.
- D. The biggest growth in sales in the manufacturing sector has come in industries that market the most innovative products.
- E. Recent improvements in management practices have allowed many manufacturers to experience enormous gains in worker productivity.

36. If the airspace around centrally located airports were restricted to commercial airliners and only those private planes equipped with radar, most of the private-plane traffic would be forced to use outlying airfields. Such a reduction in the amount of private-plane traffic would reduce the risk of midair collision around the centrally located airports.

The conclusion drawn in the first sentence depends on which of the following assumptions?

- A. Outlying airfields would be as convenient as centrally located airports for most pilots of private planes.

- B. Most outlying airfields are not equipped to handle commercial-airline traffic.
- C. Most private planes that use centrally located airports are not equipped with radar.
- D. Commercial airliners are at greater risk of becoming involved in midair collisions than are private planes.
- E. A reduction in the risk of midair collision would eventually lead to increases in commercial-airline traffic.

37. If the airspace around centrally located airports were restricted to commercial airliners and only those private planes equipped with radar, most of the private-plane traffic would be forced to use outlying airfields. Such a reduction in the amount of private-plane traffic would reduce the risk of midair collision around the centrally located airports.

Which of the following, if true, would most strengthen the conclusion drawn in the second sentence?

- A. Commercial airliners are already required by law to be equipped with extremely sophisticated radar systems.
- B. Centrally located airports are experiencing overcrowded airspace primarily because of sharp increases in commercial-airline traffic.
- C. Many pilots of private planes would rather buy radar equipment than be excluded from centrally located airports.
- D. The number of midair collisions that occur near centrally located airports has decreased in recent years.
- E. Private planes not equipped with radar systems cause a disproportionately large number of midair collisions around centrally located airports.

38. Which of the following best completes the passage below?

Established companies concentrate on defending what they already have. Consequently, they tend not to be innovative themselves and tend to underestimate the effects of the innovations of others. The clearest example of this defensive strategy is the fact that_____.

- A. ballpoint pens and soft-tip markers have eliminated the traditional market for fountain pens, clearing the way for the marketing of fountain pens as luxury or prestige items
- B. a highly successful automobile was introduced by the same company that had earlier introduced a model that had been a dismal failure
- C. a once-successful manufacturer of slide rules reacted to the introduction of electronic calculators by trying to make better slide rules
- D. one of the first models of modern accounting machines, designed for use in the banking industry, was purchased by a public library as well as by banks
- E. the inventor of a commonly used anesthetic did not intend the product to be used by dentists, who currently account for almost the entire market for that drug.

39. Most archaeologists have held that people first reached the Americas less than 20,000 years ago by crossing a land bridge into North America. But recent discoveries of human shelters in South America dating from 32,000 years ago have led researchers to speculate that people arrived in South America first, after voyaging across the Pacific, and then spread northward.

Which of the following, if it were discovered, would be pertinent evidence against the speculation above?

- A. A rock shelter near Pittsburgh, Pennsylvania, contains evidence of use by human beings 19,000 years ago.
- B. Some North American sites of human habitation predate any sites found in South America.
- C. The climate is warmer at the 32,000-year-old South American site than at the oldest known North American site.
- D. The site in South America that was occupied 32,000 years ago was continuously occupied until 6,000 years ago.
- E. The last Ice Age, between 11,500 and 20,000 years ago, considerably lowered worldwide sea levels.

40. In Asia, where palm trees are non-native, the trees' flowers have traditionally been pollinated by hand, which has kept palm fruit productivity unnaturally low. When weevils known to be efficient pollinators of palm flowers were introduced into Asia in 1980, palm fruit productivity increased-by up to fifty percent in some areas-but then decreased sharply in 1984. Which of the following statements, if true, would best explain the 1984 decrease in productivity?

- A. Prices for palm fruit fell between 1980 and 1984 following the rise in production and a concurrent fall in demand.
- B. Imported trees are often more productive than native trees because the imported ones have left behind their pests and diseases in their native lands.
- C. Rapid increases in productivity tend to deplete trees of nutrients needed for the development of the fruit-producing female flowers.
- D. The weevil population in Asia remained at approximately the same level between 1980 and 1984.
- E. Prior to 1980 another species of insect pollinated the Asian palm trees, but not as efficiently as the species of weevil that was introduced in 1980.

41. Since the mayor's publicity campaign for Greenville's bus service began six months ago, morning automobile traffic into the midtown area of the city has decreased seven percent. During the same period, there has been an equivalent rise in the number of persons riding buses into the midtown area. Obviously, the mayor's publicity campaign has convinced many people to leave their cars at home and ride the bus to work.

Which of the following, if true, casts the most serious doubt on the conclusion drawn above?

- A. Fares for all bus routes in Greenville have risen an average of five percent during the past six months.
- B. The mayor of Greenville rides the bus to City Hall in the city's midtown area.
- C. Road reconstruction has greatly reduced the number of lanes available to commuters in major streets leading to the midtown area during the past six months.
- D. The number of buses entering the midtown area of Greenville during the morning hours is exactly the same now as it was one year ago.

- E. Surveys show that longtime bus riders are no more satisfied with the Greenville bus service than they were before the mayor's publicity campaign began.

42. In the aftermath of a worldwide stock-market crash, Country T claimed that the severity of the stock-market crash it experienced resulted from the accelerated process of denationalization many of its industries underwent shortly before the crash.

Which of the following, if it could be carried out, would be most useful in an evaluation of Country T's assessment of the causes of the severity of its stock-market crash?

- A. calculating the average loss experienced by individual traders in Country T during the crash
- B. using economic theory to predict the most likely date of the next crash in Country T
- C. comparing the total number of shares sold during the worst days of the crash in Country T to the total number of shares sold in Country T just prior to the crash
- D. comparing the severity of the crash in Country T to the severity of the crash in countries otherwise economically similar to Country T that have not experienced recent denationalization
- E. comparing the long-term effects of the crash on the purchasing power of the currency of Country T to the immediate, more severe short-term effects of the crash on the purchasing power of the currency of Country T

43. With the emergence of biotechnology companies, it was feared that they would impose silence about proprietary results on their in-house researchers and their academic consultants. This constraint, in turn, would slow the development of biological science and engineering.

Which of the following, if true, would tend to weaken most seriously the prediction of scientific secrecy described above?

- A. Biotechnological research funded by industry has reached some conclusions that are of major scientific importance.
- B. When the results of scientific research are kept secret, independent researchers are unable to build on those results.
- C. Since the research priorities of biotechnology companies are not the same as those of academic institutions, the financial support of research by such companies distorts the research agenda.
- D. To enhance the companies' standing in the scientific community, the biotechnology companies encourage employees to publish their results, especially results that are important.
- E. Biotechnology companies devote some of their research resources to problems that are of fundamental scientific importance and that are not expected to produce immediate practical applications.

44. Some people have questioned the judge's objectivity in cases of sex discrimination against women. But the record shows that in sixty percent of such cases, the judge has decided in favor of the women. This record demonstrates that the judge has not discriminated against women in cases of sex discrimination against women.

The argument above is flawed in that it ignores the possibility that

- A. a large number of the judge's cases arose out of allegations of sex discrimination against women
- B. many judges find it difficult to be objective in cases of sex discrimination against women
- C. the judge is biased against women defendants or plaintiffs in cases that do not involve sex discrimination
- D. the majority of the cases of sex discrimination against women that have reached the judge's court have been appealed from a lower court
- E. the evidence shows that the women should have won in more than sixty percent of the judge's cases involving sex discrimination against women

45. The tobacco industry is still profitable and projections are that it will remain so. In the United States this year, the total amount of tobacco sold by tobacco-farmers has increased, even though the number of adults who smoke has decreased.

Each of the following, if true, could explain the simultaneous increase in tobacco sales and decrease in the number of adults who smoke EXCEPT:

- A. During this year, the number of women who have begun to smoke is greater than the number of men who have quit smoking
- B. The number of teen-age children who have begun to smoke this year is greater than the number of adults who have quit smoking during the same period
- C. During this year, the number of nonsmokers who have begun to use chewing tobacco or snuff is greater than the number of people who have quit smoking
- D. The people who have continued to smoke consume more tobacco per person than they did in the past
- E. More of the cigarettes made in the United States this year were exported to other countries than was the case last year.

46. Kale has more nutritional value than spinach. But since collard greens have more nutritional value than lettuce, it follows that kale has more nutritional value than lettuce.

Any of the following, if introduced into the argument as an additional premise, makes the argument above logically correct EXCEPT:

- A. Collard greens have more nutritional value than kale
- B. Spinach has more nutritional value than lettuce
- C. Spinach has more nutritional value than collard greens
- D. Spinach and collard greens have the same nutritional value
- E. Kale and collard greens have the same nutritional value

47. On the basis of a decrease in the college-age population, many colleges now anticipate increasingly smaller freshman classes each year. Surprised by a 40 percent increase in qualified applicants over the previous year, however, administrators at Nice College now plan to hire more faculties for courses taken by all freshmen.

Which of the following statements about Nice College's current qualified applicants, if true, would strongly suggest that the administrators' plan is flawed?

- A. A substantially higher percentage than usual plan to study for advanced degrees after graduation from college.

- B. According to their applications, their level of participation in extracurricular activities and varsity sports is unusually high.
- C. According to their applications, none of them lives in a foreign country.
- D. A substantially lower percentage than usual rate Nice College as their first choice among the colleges to which they are applying
- E. A substantially lower percentage than usual list mathematics as their intended major.

48. A researcher discovered that people who have low levels of immune-system activity tend to score much lower on tests of mental health than do people with normal or high immune-system activity. The researcher concluded from this experiment that the immune system protects against mental illness as well as against physical disease.

The researcher's conclusion depends on which of the following assumptions?

- A. High immune-system activity protects against mental illness better than normal immune-system activity does.
- B. Mental illness is similar to physical disease in its effects on body systems.
- C. People with high immune-system activity cannot develop mental illness.
- D. Mental illness does not cause people's immune-system activity to decrease.
- E. Psychological treatment of mental illness is not as effective as is medical treatment.

49. A milepost on the towpath read "21" on the side facing the hiker as she approached it and "23" on its back. She reasoned that the next milepost forward on the path would indicate that she was halfway between one end of the path and the other. However, the milepost one mile further on read "20" facing her and "24" behind.

Which of the following, if true, would explain the discrepancy described above?

- (A) The numbers on the next milepost had been reversed.
- (B) The numbers on the mileposts indicate kilometers, not miles.
- (C) The facing numbers indicate miles to the end of the path, not miles from the beginning.
- (D) A milepost was missing between the two the hiker encountered.
- (E) The mileposts had originally been put in place for the use of mountain bikers, not for hikers.

50 Airline: Newly developed collision-avoidance systems, although not fully tested to discover potential malfunctions, must be installed immediately in passenger planes. Their mechanical warnings enable pilots to avoid crashes.

Pilots: Pilots will not fly in planes with collision-avoidance systems that are not fully tested.

Malfunctioning systems could mislead pilots, causing crashes.

The pilots' objection is most strengthened if which of the following is true?

- (A) It is always possible for mechanical devices to malfunction.
- (B) Jet engines, although not fully tested when first put into use, have achieved exemplary performance and safety records.
- (C) Although collision-avoidance systems will enable pilots to avoid some crashes, the likely malfunctions of the not-fully-tested systems will cause even more crashes.
- (D) Many airline collisions are caused in part by the exhaustion of overworked pilots.

(E) Collision-avoidance systems, at this stage of development, appear to have worked better in passenger planes than in cargo planes during experimental flights made over a six-month period.

51. Guitar strings often go "dead"—become less responsive and bright in tone—after a few weeks of intense use. A researcher whose son is a classical guitarist hypothesized that dirt and oil, rather than changes in the material properties of the string, were responsible. Which of the following investigations is most likely to yield significant information that would help to evaluate the researcher's hypothesis?

- (A) Determining if a metal alloy is used to make the strings used by classical guitarists
- (B) Determining whether classical guitarists make their strings go dead faster than do folk guitarists
- (C) Determining whether identical lengths of string, of the same gauge, go dead at different rates when strung on various brands of guitars.
- (D) Determining whether a dead string and a new string produce different qualities of sound
- (E) Determining whether smearing various substances on new guitar strings causes them to go dead

52. Most consumers do not get much use out of the sports equipment they purchase. For example, seventeen percent of the adults in the United States own jogging shoes, but only forty-five percent of the owners jog more than once a year, and only seventeen percent jog more than once a week.

Which of the following, if true, casts most doubt on the claim that most consumers get little use out of the sports equipment they purchase?

- (A) Joggers are most susceptible to sports injuries during the first six months in which they jog.
- (B) Joggers often exaggerate the frequency with which they jog in surveys designed to elicit such information.
- (C) Many consumers purchase jogging shoes for use in activities other than jogging.
- (D) Consumers who take up jogging often purchase an athletic shoe that can be used in other sports.
- (E) Joggers who jog more than once a week are often active participants in other sports as well.

53. Two decades after the Emerald River Dam was built, none of the eight fish species native to the Emerald River was still reproducing adequately in the river below the dam. Since the dam reduced the annual range of water temperature in the river below the dam from 50 degrees to 6 degrees, scientists have hypothesized that sharply rising water temperatures must be involved in signaling the native species to begin the reproductive cycle.

Which of the following statements, if true, would most strengthen the scientists' hypothesis?

- (A) The native fish species were still able to reproduce only in side streams of the river below the dam where the annual temperature range remains approximately 50 degrees.

- (B) Before the dam was built, the Emerald River annually overflowed its banks, creating backwaters that were critical breeding areas for the native species of fish.
- (C) The lowest recorded temperature of the Emerald River before the dam was built was 34 degrees, whereas the lowest recorded temperature of the river after the dam was built has been 43 degrees.
- (D) Nonnative species of fish, introduced into the Emerald River after the dam was built, have begun competing with the declining native fish species for food and space.
- (E) Five of the fish species native to the Emerald River are not native to any other river in North America.

54. It is true that it is against international law to sell plutonium to countries that do not yet have nuclear weapons. But if United States companies do not do so, companies in other countries will.

Which of the following is most like the argument above in its logical structure?

- (A) It is true that it is against the police department's policy to negotiate with kidnapers. But if the police want to prevent loss of life, they must negotiate in some cases.
- (B) It is true that it is illegal to refuse to register for military service. But there is a long tradition in the United States of conscientious objection to serving in the armed forces.
- (C) It is true that it is illegal for a government official to participate in a transaction in which there is an apparent conflict of interest. But if the facts are examined carefully, it will clearly be seen that there was no actual conflict of interest in the defendant's case.
- (D) It is true that it is against the law to burglarize people's homes. But someone else certainly would have burglarized that house if the defendant had not done so first.
- (E) It is true that company policy forbids supervisors to fire employees without two written warnings. But there have been many supervisors who have disobeyed this policy.

55. In recent years many cabinetmakers have been winning acclaim as artists. But since furniture must be useful, cabinetmakers must exercise their craft with an eye to the practical utility of their product. For this reason, cabinetmaking is not art.

Which of the following is an assumption that supports drawing the conclusion above from the reason given for that conclusion?

- (A) Some furniture is made to be placed in museums, where it will not be used by anyone.
- (B) Some cabinetmakers are more concerned than others with the practical utility of the products they produce.
- (C) Cabinetmakers should be more concerned with the practical utility of their products than they currently are.
- (D) An object is not an art object if its maker pays attention to the object's practical utility.
- (E) Artists are not concerned with the monetary value of their products.

56. Although custom prosthetic bone replacements produced through a new computer-aided design process will cost more than twice as much as ordinary replacements, custom replacements should still be cost-effective. Not only will surgery and recovery time be reduced, but custom replacements should last longer, thereby reducing the need for further

hospital stays.

Which of the following must be studied in order to evaluate the argument presented above?

- (A) The amount of time a patient spends in surgery *versus* the amount of time spent recovering from surgery
- (B) The amount by which the cost of producing custom replacements has declined with the introduction of the new technique for producing them
- (C) The degree to which the use of custom replacements is likely to reduce the need for repeat surgery when compared with the use of ordinary replacements
- (D) The degree to which custom replacements produced with the new technique are more carefully manufactured than are ordinary replacements
- (E) The amount by which custom replacements produced with the new technique will drop in cost as the production procedures become standardized and applicable on a larger scale

57. Extinction is a process that can depend on a variety of ecological, geographical, and physiological variables. These variables affect different species of organisms in different ways, and should, therefore, yield a random pattern of extinctions. However, the fossil record shows that extinction occurs in a surprisingly definite pattern, with many species vanishing at the same time.

Which of the following, if true, forms the best basis for at least a partial explanation of the patterned extinctions revealed by the fossil record?

- (A) Major episodes of extinction can result from widespread environmental disturbances that affect numerous different species.
- (B) Certain extinction episodes selectively affect organisms with particular sets of characteristics unique to their species.
- (C) Some species become extinct because of accumulated gradual changes in their local environments.
- (D) In geologically recent times, for which there is no fossil record, human intervention has changed the pattern of extinctions.
- (E) Species that are widely dispersed are the least likely to become extinct.

58. Neither a rising standard of living nor balanced trade, by itself, establishes a country's ability to compete in the international marketplace. Both are required simultaneously since standards of living can rise because of growing trade deficits and trade can be balanced by means of a decline in a country's standard of living.

If the facts stated in the passage above are true, a proper test of a country's ability to be competitive is its ability to

- (A) balance its trade while its standard of living rises
- (B) balance its trade while its standard of living falls
- (C) increase trade deficits while its standard of living rises
- (D) decrease trade deficits while its standard of living falls
- (E) keep its standard of living constant while trade deficits rise.

59. Certain messenger molecules fight damage to the lungs from noxious air by telling the muscle cells encircling the lungs' airways to contract. This partially seals off the lungs. An

asthma attack occurs when the messenger molecules are activated unnecessarily, in response to harmless things like pollen or household dust.

Which of the following, if true, points to the most serious flaw of a plan to develop a medication that would prevent asthma attacks by blocking receipt of any messages sent by the messenger molecules referred to above?

- (A) Researchers do not yet know how the body produces the messenger molecules that trigger asthma attacks.
 - (B) Researchers do not yet know what makes one person's messenger molecules more easily activated than another's.
 - (C) Such a medication would not become available for several years, because of long lead times in both development and manufacture.
 - (D) Such a medication would be unable to distinguish between messages triggered by pollen and household dust and messages triggered by noxious air.
 - (E) Such a medication would be a preventative only and would be unable to alleviate an asthma attack once it had started.
60. Since the routine use of antibiotics can give rise to resistant bacteria capable of surviving antibiotic environments, the presence of resistant bacteria in people could be due to the human use of prescription antibiotics. Some scientists, however, believe that most resistant bacteria in people derive from human consumption of bacterially infected meat.

Which of the following statements, if true, would most significantly strengthen the hypothesis of the scientists?

- (A) Antibiotics are routinely included in livestock feed so that livestock producers can increase the rate of growth of their animals.
 - (B) Most people who develop food poisoning from bacterially infected meat are treated with prescription antibiotics.
 - (C) The incidence of resistant bacteria in people has tended to be much higher in urban areas than in rural areas where meat is of comparable quality.
 - (D) People who have never taken prescription antibiotics are those least likely to develop resistant bacteria.
 - (E) Livestock producers claim that resistant bacteria in animals cannot be transmitted to people through infected meat.
61. The recent decline in the value of the dollar was triggered by a prediction of slower economic growth in the coming year. But that prediction would not have adversely affected the dollar had it not been for the government's huge budget deficit, which must therefore be decreased to prevent future currency declines.

Which of the following, if true, would most seriously weaken the conclusion about how to prevent future currency declines?

- (A) The government has made little attempt to reduce the budget deficit.
- (B) The budget deficit has not caused a slowdown in economic growth.
- (C) The value of the dollar declined several times in the year prior to the recent prediction of slower economic growth.

- (D) Before there was a large budget deficit, predictions of slower economic growth frequently caused declines in the dollar's value.
- (E) When there is a large budget deficit, other events in addition to predictions of slower economic growth sometimes trigger declines in currency value.

62. Which of the following best completes the passage below?

At a recent conference on environmental threats to the North Sea, most participating countries favored uniform controls on the quality of effluents, whether or not specific environmental damage could be attributed to a particular source of effluent. What must, of course, be shown, in order to avoid excessively restrictive controls, is that _____.

- (A) any uniform controls that are adopted are likely to be implemented without delay
 - (B) any substance to be made subject to controls can actually cause environmental damage
 - (C) the countries favoring uniform controls are those generating the largest quantities of effluents
 - (D) all of any given pollutant that is to be controlled actually reaches the North Sea at present
 - (E) environmental damage already inflicted on the North Sea is reversible
63. Traditionally, decision-making by managers that is reasoned step-by-step has been considered preferable to intuitive decision-making. However, a recent study found that top managers used intuition significantly more than did most middle-or lower-level managers. This confirms the alternative view that intuition is actually more effective than careful, methodical reasoning.
- The conclusion above is based on which of the following assumptions?
- (A) Methodical, step-by-step reasoning is inappropriate for making many real-life management decisions.
 - (B) Top managers have the ability to use either intuitive reasoning or methodical, step-by-step reasoning in making decisions.
 - (C) The decisions made by middle-and lower-level managers can be made as easily by using methodical reasoning as by using intuitive reasoning.
 - (D) Top managers use intuitive reasoning in making the majority of their decisions.
 - (E) Top managers are more effective at decision-making than middle-or lower-level managers

64. The imposition of quotas limiting imported steel will not help the big American steel mills. In fact, the quotas will help "mini-mills" flourish in the United States. Those small domestic mills will take more business from the big American steel mills than would have been taken by the foreign steel mills in the absence of quotas.

Which of the following, if true, would cast the most serious doubt on the claim made in the last sentence above?

- (A) Quality rather than price is a major factor in determining the type of steel to be used for a particular application.

- (B) Foreign steel mills have long produced grades of steel comparable in quality to the steel produced by the big American mills.
- (C) American quotas on imported goods have often induced other countries to impose similar quotas on American goods.
- (D) Domestic "mini-mills" consistently produce better grades of steel than do the big American mills.
- (E) Domestic "mini-mills" produce low-volume, specialized types of steels that are not produced by the big American steel mills.

65. Correctly measuring the productivity of service workers is complex. Consider, for example, postal workers: they are often said to be more productive if more letters are delivered per postal worker. But is this really true? what if more letters are lost or delayed per worker at the same time that more are delivered?

The objection implied above to the productivity measure described is based on doubts about the truth of which of the following statements?

- (A) Postal workers are representative of service workers in general.
- (B) The delivery of letters is the primary activity of the postal service.
- (C) Productivity should be ascribed to categories of workers, not to individuals.
- (D) The quality of services rendered can appropriately be ignored in computing productivity.
- (E) The number of letters delivered is relevant to measuring the productivity of postal workers.

66. Male bowerbirds construct elaborately decorated nests, or bowers. Basing their judgment on the fact that different local populations of bowerbirds of the same species build bowers that exhibit different building and decorative styles, researchers have concluded that the bowerbirds' building styles are a culturally acquired, rather than a genetically transmitted, trait.

Which of the following, if true, would most strengthen the conclusion drawn by the researchers?

- (A) There are more common characteristics than there are differences among the bower-building styles of the local bowerbird population that has been studied most extensively
- (B) Young male bowerbirds are inept at bower-building and apparently spend years watching their elders before becoming accomplished in the local bower style.
- (C) The bowers of one species of bowerbird lack the towers and ornamentation characteristic of the bowers of most other species of bowerbird.
- (D) Bowerbirds are found only in New Guinea and Australia, where local populations of the birds apparently seldom have contact with one another.
- (E) It is well known that the song dialects of some songbirds are learned rather than transmitted genetically.

67. A greater number of newspapers are sold in Town S than in Town T. Therefore, the citizens of Town S are better informed about major world events than are the citizens of

Town T.

Each of the following, if true, weakens the conclusion above EXCEPT:

- (A) Town S has a larger population than Town T.
- (B) Most citizens of Town T work in Town S and buy their newspapers there.
- (C) The average citizen of Town S spends less time reading newspapers than does the average citizen of Town T.
- (D) A weekly newspaper restricted to the coverage of local events is published in Town S.
- (E) The average newsstand price of newspapers sold in Town S is lower than the average price of newspapers sold in Town T.

68. A drug that is highly effective in treating many types of infection can, at present, be obtained only from the bark of the ibora, a tree that is quite rare in the wild. It takes the bark of 5,000 trees to make one kilogram of the drug. It follows, therefore, that continued production of the drug must inevitably lead to the ibora's extinction.

Which of the following, if true, most seriously weakens the argument above?

- (A) The drug made from ibora bark is dispensed to doctors from a central authority.
- (B) The drug made from ibora bark is expensive to produce.
- (C) The leaves of the ibora are used in a number of medical products.
- (D) The ibora can be propagated from cuttings and grown under cultivation.
- (E) The ibora generally grows in largely inaccessible places.

69. High levels of fertilizer and pesticides, needed when farmers try to produce high yields of the same crop year after year, pollute water supplies. Experts therefore urge farmers to diversify their crops and to rotate their plantings yearly.

To receive governmental price-support benefits for a crop, farmers must have produced that same crop for the past several years.

The statements above, if true, best support which of the following conclusions?

- (A) The rules for governmental support of farm prices work against efforts to reduce water pollution.
- (B) The only solution to the problem of water pollution from fertilizers and pesticides is to take farmland out of production.
- (C) Farmers can continue to make a profit by rotating diverse crops, thus reducing costs for chemicals, but not by planting the same crop each year.
- (D) New farming techniques will be developed to make it possible for farmers to reduce the application of fertilizers and pesticides.
- (E) Governmental price supports for farm products are set at levels that are not high enough to allow farmers to get out of debt.

70. Shelby Industries manufactures and sells the same gauges as Jones Industries. Employee wages account for forty percent of the cost of manufacturing gauges at both Shelby Industries and Jones Industries. Shelby Industries is seeking a competitive advantage over

Jones Industries. Therefore, to promote this end, Shelby Industries should lower employee wages.

Which of the following, if true, would most weaken the argument above?

- (A) Because they make a small number of precision instruments, gauge manufacturers cannot receive volume discounts on raw materials.
- (B) Lowering wages would reduce the quality of employee work, and this reduced quality would lead to lowered sales.
- (C) Jones Industries has taken away twenty percent of Shelby Industries' business over the last year.
- (D) Shelby Industries pays its employees, on average, ten percent more than does Jones Industries.
- (E) Many people who work for manufacturing plants live in areas in which the manufacturing plant they work for is the only industry.

71. Some communities in Florida are populated almost exclusively by retired people and contain few, if any, families with small children. Yet these communities are home to thriving businesses specializing in the rental of furniture for infants and small children.

Which of the following, if true, best reconciles the seeming discrepancy described above?

- (A) The businesses specializing in the rental of children's furniture buy their furniture from distributors outside of Florida.
- (B) The few children who do reside in these communities all know each other and often make overnight visits to one another's houses.
- (C) Many residents of these communities who move frequently prefer renting their furniture to buying it outright.
- (D) Many residents of these communities must provide for the needs of visiting grandchildren several weeks a year.
- (E) Children's furniture available for rental is of the same quality as that available for sale in the stores.

72. Large national budget deficits do not cause large trade deficits. If they did, countries with the largest budget deficits would also have the largest trade deficits. In fact, when deficit figures are adjusted so that different countries are reliably comparable to each other, there is no such correlation.

If the statements above are all true, which of the following can properly be inferred on the basis of them?

- (A) Countries with large national budget deficits tend to restrict foreign trade.
- (B) Reliable comparisons of the deficit figures of one country with those of another are impossible.

- (C) Reducing a country's national budget deficit will not necessarily result in a lowering of any trade deficit that country may have.
- (D) When countries are ordered from largest to smallest in terms of population, the smallest countries generally have the smallest budget and trade deficits.
- (E) Countries with the largest trade deficits never have similarly large national budget deficits.

73. "Fast cycle time" is a strategy of designing a manufacturing organization to eliminate bottlenecks and delays in production. Not only does it speed up production, but it also assures quality. The reason is that the bottlenecks and delays cannot be eliminated unless all work is done right the first time.

The claim about quality made above rests on a questionable presupposition that

- (A) any flaw in work on a product would cause a bottleneck or delay and so would be prevented from occurring on a "fast cycle" production line
- (B) the strategy of "fast cycle time" would require fundamental rethinking of product design
- (C) the primary goal of the organization is to produce a product of unexcelled quality, rather than to generate profits for stockholders
- (D) "fast cycle time" could be achieved by shaving time off each of the component processes in production cycle
- (E) "fast cycle time" is a concept in business strategy that has not yet been put into practice in a factory

74. Many breakfast cereals are fortified with vitamin supplements. Some of these cereals provide 100 percent of the recommended daily requirement of vitamins. Nevertheless, a well-balanced breakfast, including a variety of foods, is a better source of those vitamins than are such fortified breakfast cereals alone.

Which of the following, if true, would most strongly support the position above?

- (A) In many foods, the natural combination of vitamins with other nutrients makes those vitamins more usable by the body than are vitamins added in vitamin supplements.
- (B) People who regularly eat cereals fortified with vitamin supplements sometimes neglect to eat the foods in which the vitamins occur naturally.
- (C) Foods often must be fortified with vitamin supplements because naturally occurring vitamins are removed during processing.
- (D) Unprocessed cereals are naturally high in several of the vitamins that are usually added to fortified breakfast cereals.
- (E) Cereals containing vitamin supplements are no harder to digest than similar cereals without added vitamins.

75. Which of the following best completes the passage below?

The more worried investors are about losing their money, the more they will demand a high potential return on their investment; great risks must be offset by the chance of great

rewards. This principle is the fundamental one in determining interest rates, and it is illustrated by the fact that——.

- (A) successful investors are distinguished by an ability to make very risky investments without worrying about their money
- (B) lenders receive higher interest rates on unsecured loans than on loans backed by collateral
- (C) in times of high inflation, the interest paid to depositors by banks can actually be below the rate of inflation
- (D) at any one time, a commercial bank will have a single rate of interest that it will expect all of its individual borrowers to pay
- (E) the potential return on investment in a new company is typically lower than the potential return on investment in a well-established company

76. A famous singer recently won a lawsuit against an advertising firm for using another singer in a commercial to evoke the famous singer's well-known rendition of a certain song. As a result of the lawsuit, advertising firms will stop using imitators in commercials. Therefore, advertising costs will rise, since famous singers' services cost more than those of their imitators.

The conclusion above is based on which of the following assumptions?

- (A) Most people are unable to distinguish a famous singer's rendition of a song from a good imitator's rendition of the same song.
 - (B) Commercials using famous singers are usually more effective than commercials using imitators of famous singers.
 - (C) The original versions of some well-known songs are unavailable for use in commercials.
 - (D) Advertising firms will continue to use imitators to mimic the physical mannerisms of famous singers.
 - (E) The advertising industry will use well-known renditions of songs in commercials.
77. A certain mayor has proposed a fee of five dollars per day on private vehicles entering the city, claiming that the fee will alleviate the city's traffic congestion. The mayor reasons that, since the fee will exceed the cost of round-trip bus fare from many nearby points, many people will switch from using their cars to using the bus.

Which of the following statements, if true, provides the best evidence that the mayor's reasoning is flawed?

- (A) Projected increases in the price of gasoline will increase the cost of taking a private vehicle into the city.
- (B) The cost of parking fees already makes it considerably more expensive for most people to take a private vehicle into the city than to take a bus.
- (C) Most of the people currently riding the bus do not own private vehicles.
- (D) Many commuters opposing the mayor's plan have indicated that they would rather endure traffic congestion than pay a five-dollar-per day fee.

(E) During the average workday, private vehicles owned and operated by people living within the city account for twenty percent of the city's traffic congestion.

78. A group of children of various ages was read stories in which people caused harm, some of those people doing so intentionally, and some accidentally. When asked about appropriate punishments for those who had caused harm, the younger children, unlike the older ones, assigned punishments that did not vary according to whether the harm was done intentionally or accidentally. Younger children, then, do not regard people's intentions as relevant to punishment.

Which of the following, if true, would most seriously weaken the conclusion above?

- (A) In interpreting these stories, the listeners had to draw on a relatively mature sense of human psychology in order to tell whether harm was produced intentionally or accidentally.
- (B) In these stories, the severity of the harm produced was clearly stated.
- (C) Younger children are as likely to produce harm unintentionally as are older children.
- (D) The older children assigned punishment in a way that closely resembled the way adults had assigned punishment in a similar experiment.
- (E) The younger children assigned punishments that varied according to the severity of the harm done by the agents in the stories.

79. When hypnotized subjects are told that they are deaf and are then asked whether they can hear the hypnotist, they reply, "No." Some theorists try to explain this result by arguing that the selves of hypnotized subjects are dissociated into separate parts, and that the part that is deaf is dissociated from the part that replies.

Which of the following challenges indicates the most serious weakness in the attempted explanation described above?

- (A) Why does the part that replies not answer, "Yes"?
- (B) Why are the observed facts in need of any special explanation?
- (C) Why do the subjects appear to accept the hypnotist's suggestion that they are deaf?
- (D) Why do hypnotized subjects all respond the same way in the situation described?
- (E) Why are the separate parts of the self the same for all subjects?

Questions 13-14 are based on the following.

The program to control the entry of illegal drugs into the country was a failure in 1987. If the program had been successful, the wholesale price of most illegal drugs would not have dropped substantially in 1987.

80. The argument in the passage depends on which of the following assumptions?

- (A) The supply of illegal drugs dropped substantially in 1987.
- (B) The price paid for most illegal drugs by the average consumer did not drop substantially in 1987.

- (C) Domestic production of illegal drugs increased at a higher rate than did the entry of such drugs into the country.
- (D) The wholesale price of a few illegal drugs increased substantially in 1987.
- (E) A drop in demand for most illegal drugs in 1987 was not the sole cause of the drop in their wholesale price.

81. The argument in the passage would be most seriously weakened if it were true that

- (A) in 1987 smugglers of illegal drugs, as a group, had significantly more funds at their disposal than did the country's customs agents
- (B) domestic production of illegal drugs increased substantially in 1987
- (C) the author's statements were made in order to embarrass the officials responsible for the drug-control program
- (D) in 1987 illegal drugs entered the country by a different set of routes than they did in 1986
- (E) the country's citizens spent substantially more money on illegal drugs in 1987 than they did in 1986.

82. Excavation of the ancient city of Kourion on the island of Cyprus revealed a pattern of debris and collapsed buildings typical of towns devastated by earthquakes. Archaeologists have hypothesized that the destruction was due to a major earthquake known to have occurred near the island in A.D.365.

Which of the following, if true, most strongly supports the archaeologists' hypothesis?

- (A) Bronze ceremonial drinking vessels that are often found in graves dating from years preceding and following A.D.365 were also found in several graves near Kourion.
- (B) No coins minted after A.D.365 were found in Kourion, but coins minted before that year were found in abundance.
- (C) Most modern histories of Cyprus mention that an earthquake occurred near the island in A.D.365.
- (D) Several small statues carved in styles current in Cyprus in the century between A.D.300 and 400 were found in Kourion.
- (E) Stone inscriptions in a form of the Greek alphabet that was definitely used in Cyprus after A.D.365 were found in Kourion.

83. Sales of telephones have increased dramatically over the last year. In order to take advantage of this increase, Mammoth Industries plans to expand production of its own model of telephone, while continuing its already very extensive advertising of this product.

Which of the following, if true, provides most support for the view that Mammoth Industries cannot increase its sales of telephones by adopting the plan outlined above?

- (A) Although it sells all of the telephones that it produces, Mammoth Industries' share of all telephone sales has declined over the last year.
- (B) Mammoth Industries' average inventory of telephones awaiting shipment to retailers has declined slightly over the last year.

- (C) Advertising has made the brand name of Mammoth Industries' telephones widely known, but few consumers know that Mammoth Industries owns this brand.
 - (D) Mammoth Industries' telephone is one of three brands of telephone that have together accounted for the bulk of the last year's increase in sales.
 - (E) Despite a slight decline in the retail price, sales of Mammoth Industries' telephones have fallen in the last year.
84. Many institutions of higher education suffer declining enrollments during periods of economic slowdown. At two-year community colleges, however, enrollment figures boom during these periods when many people have less money and there is more competition for jobs.

Each of the following, if true, helps to explain the enrollment increases in two-year community colleges described above EXCEPT:

- (A) During periods of economic slowdown, two-year community colleges are more likely than four-year colleges to prepare their students for the jobs that are still available.
- (B) During periods of economic prosperity, graduates of two-year community colleges often continue their studies at four-year colleges.
- (C) Tuition at most two-year community colleges is a fraction of that at four-year colleges.
- (D) Two-year community colleges devote more resources than do other colleges to attracting those students especially affected by economic slowdowns.
- (E) Students at two-year community colleges, but not those at most four-year colleges, can control the cost of their studies by choosing the number of courses they take each term.

Question 85-86 are based on the following.

Hardin argued that grazing land held in common (that is, open to any user) would always be used less carefully than private grazing land. Each rancher would be tempted to overuse common land because the benefits would accrue to the individual, while the costs of reduced land quality that results from overuse would be spread among all users. But a study comparing 217 million acres of common grazing land with 433 million acres of private grazing land showed that the common land was in better condition.

85. The answer to which of the following questions would be most useful in evaluating the significance, in relation to Hardin's claim, of the study described above?
- (A) Did any of the ranchers whose land was studied use both common and private land?
 - (B) Did the ranchers whose land was studied tend to prefer using common land over using private land for grazing?
 - (C) Was the private land that was studied of comparable quality to the common land before either was used for grazing?
 - (D) Were the users of the common land that was studied at least as prosperous as the users of the private land?
 - (E) Were there any owners of herds who used only common land, and no private land, for grazing?

86. Which of the following, if true and known by the ranchers, would best help explain the results of the study?
- (A) With private grazing land, both the costs and the benefits of overuse fall to the individual user.
 - (B) The cost in reduced land quality that is attributable to any individual user is less easily measured with common land than it is with private land.
 - (C) An individual who overuses common grazing land might be able to achieve higher returns than other users can, with the result that he or she would obtain a competitive advantage.
 - (D) If one user of common land overuses it even slightly, the other users are likely to do so even more, with the consequence that the costs to each user outweigh the benefits.
 - (E) There are more acres of grazing land held privately than there are held in common.

87. In tests for pironoma, a serious disease, a false positive result indicates that people have pironoma when, in fact, they do not; a false negative result indicates that people do not have pironoma when, in fact, they do. To detect pironoma most accurately, physicians should use the laboratory test that has the lowest proportion of false positive results.

Which of the following, if true, gives the most support to the recommendation above?

- (A) The accepted treatment for pironoma does not have damaging side effects.
- (B) The laboratory test that has the lowest proportion of false positive results causes the same minor side effects as do the other laboratory tests used to detect pironoma.
- (C) In treating pironoma patients, it is essential to begin treatment as early as possible, since even a week of delay can result in loss of life.
- (D) The proportion of inconclusive test results is equal for all laboratory tests used to detect pironoma.
- (E) All laboratory tests to detect pironoma have the same proportion of false negative results.

Questions 88-89 are based on the following.

In many corporations, employees are being replaced by automated equipment in order to save money. However, many workers who lose their jobs to automation will need government assistance to survive, and the same corporations that are laying people off will eventually pay for that assistance through increased taxes and unemployment insurance payments.

88. The author is arguing that

- (A) higher taxes and unemployment insurance payments will discourage corporations from automating
- (B) replacing people through automation to reduce production costs will result in increases of other costs to corporations.
- (C) many workers who lose their jobs to automation will have to be retrained for new jobs
- (D) corporations that are laying people off will eventually rehire many of them
- (E) corporations will not save money by automating because people will be needed to run the new machines

89. Which of the following, if true, most strengthens the author's argument?

- (A) Many workers who have already lost their jobs to automation have been unable to find new jobs.
- (B) Many corporations that have failed to automate have seen their profits decline.
- (C) Taxes and unemployment insurance are paid also by corporations that are not automating.
- (D) Most of the new jobs created by automation pay less than the jobs eliminated by automation did.
- (E) The initial investment in machinery for automation is often greater than the short-term savings in labor costs.

90. The sustained massive use of pesticides in farming has two effects that are especially pernicious. First, it often kills off the pests' natural enemies in the area. Second, it often unintentionally gives rise to insecticide-resistant pests, since those insects that survive a particular insecticide will be the ones most resistant to it, and they are the ones left to breed. From the passage above, it can be properly inferred that the effectiveness of the sustained massive use of pesticides can be extended by doing which of the following, assuming that each is a realistic possibility?

- (A) Using only chemically stable insecticides
- (B) Periodically switching the type of insecticide used
- (C) Gradually increasing the quantities of pesticides used
- (D) Leaving a few fields fallow every year
- (E) Breeding higher-yielding varieties of crop plants

91. When a polygraph test is judged inconclusive, this is no reflection on the examinee. Rather, such a judgment means that the test has failed to show whether the examinee was truthful or untruthful. Nevertheless, employers will sometimes refuse to hire a job applicant because of an inconclusive polygraph test result.

Which of the following conclusions can most properly be drawn from the information above?

- (A) Most examinees with inconclusive polygraph test results are in fact untruthful.
- (B) Polygraph tests should not be used by employers in the consideration of job applicants.
- (C) An inconclusive polygraph test result is sometimes unfairly held against the examinee.
- (D) A polygraph test indicating that an examinee is untruthful can sometimes be mistaken.
- (E) Some employers have refused to consider the results of polygraph tests when evaluating job applicants.

92. According to the new office smoking regulations, only employees who have enclosed office may smoke at their desks. Virtually all employees with enclosed offices are at the professional level, and virtually all secretarial employees lack enclosed offices. Therefore, secretaries who smoke should be offered enclosed offices.

Which of the following is an assumption that enables the conclusion above to be properly drawn?

- (A) Employees at the professional level who do not smoke should keep their enclosed offices.
- (B) Employees with enclosed offices should not smoke at their desks, even though the new regulations permit them to do so.
- (C) Employees at the secretarial level should be allowed to smoke at their desks, even if they do not have enclosed offices.
- (D) The smoking regulations should allow all employees who smoke an equal opportunity to do so, regardless of an employee's job level.
- (E) The smoking regulations should provide equal protection from any hazards associated with smoking to all employees who do not smoke.

93. Dental researchers recently discovered that tooth-brushes can become contaminated with bacterial that cause pneumonia and strep throat. They found that contamination usually occurs after toothbrushes have been used for four weeks. For that reason, people should replace their toothbrushes at least once a month.

Which of the following, if true, would most weaken the conclusion above?

- (A) The dental researchers could not discover why toothbrush contamination usually occurred only after toothbrushes had been used for four weeks.
- (B) The dental researchers failed to investigate contamination of toothbrushes by viruses, yeasts, and other pathogenic microorganisms.
- (C) The dental researchers found that among people who used toothbrushes contaminated with bacterial that cause pneumonia and strep throat, the incidence of these diseases was no higher than among people who used uncontaminated toothbrushes.
- (D) The dental researchers found that people who rinsed their toothbrushes thoroughly in hot water after each use were as likely to have contaminated toothbrushes as were people who only rinsed their toothbrushes hurriedly in cold water after each use.
- (E) The dental researchers found that, after six weeks of use, greater length of use of a toothbrush did not correlate with a higher number of bacterial being present.

Questions 94-95 are based on the following.

To protect certain fledgling industries, the government of country Z banned imports of the types of products those industries were starting to make. As a direct result, the cost of those products to the buyers, several export-dependent industries in Z, went up, sharply limiting the ability of those industries to compete effectively in their export markets.

94. Which of the following can be most properly inferred from the passage about the products whose importation was banned?

- (A) Those products had been cheaper to import than they were to make within country Z's fledgling industries.
- (B) Those products were ones that country Z was hoping to export in its turn, once the fledgling industries matured.
- (C) Those products used to be imported from just those countries to which country Z's exports went.

- (D) Those products had become more and more expensive to import, which resulted in a foreign trade deficit just before the ban.
- (E) Those products used to be imported in very small quantities, but they were essential to country Z's economy.

95. Which of the following conclusions about country Z's adversely affected export-dependent industries is best supported by the passage?

- (A) Profit margins in those industries were not high enough to absorb the rise in costs mentioned above.
- (B) Those industries had to contend with the fact that other countries banned imports from country Z.
- (C) Those industries succeeded in expanding the domestic market for their products.
- (D) Steps to offset rising materials costs by decreasing labor costs were taken in those industries.
- (E) Those industries started to move into export markets that they had previously judged unprofitable.

96. The difficulty with the proposed high-speed train line is that a used plane can be bought for one-third the price of the train line, and the plane, which is just as fast, can fly anywhere. The train would be a fixed linear system, and we live in a world that is spreading out in all directions and in which consumers choose the free-wheel systems (cars, buses, aircraft), which do not have fixed routes. Thus a sufficient market for the train will not exist.

Which of the following, if true, most severely weakens the argument presented above?

- (A) Cars, buses, and planes require the efforts of drivers and pilots to guide them, whereas the train will be guided mechanically.
- (B) Cars and buses are not nearly as fast as the high-speed train will be.
- (C) Planes are not a free-wheel system because they can fly only between airports, which are less convenient for consumers than the high-speed train's stations would be.
- (D) The high-speed train line cannot use currently underutilized train stations in large cities.
- (E) For long trips, most people prefer to fly rather than to take ground-level transportation.

97. Leaders of a miners' union on strike against Coalco are contemplating additional measures to pressure the company to accept the union's contract proposal. The union leaders are considering as their principal new tactic a consumer boycott against Gasco gas stations, which are owned by Energy Incorporated, the same corporation that owns Coalco.

Answer to which of the following questions is LEAST directly relevant to the union leaders' consideration of whether attempting a boycott of Gasco will lead to acceptance of their contract proposal?

- (A) Would revenue losses by Gasco seriously affect Energy Incorporated?
- (B) Can current Gasco customers easily obtain gasoline elsewhere?
- (C) Have other miners' unions won contracts similar to the one proposed by this union?
- (D) Have other unions that have employed a similar tactic achieved their goals with it?
- (E) Do other corporations that own coal companies also own gas stations?

Questions 98-99 are based on the following.

Transnational cooperation among corporations is experiencing a model renaissance among United States firms, even though projects undertaken by two or more corporations under a collaborative agreement are less profitable than projects undertaken by a singly corporation . The advantage of transnational cooperation is that such joint international projects may allow United States firms to win foreign contracts that they would not otherwise be able to win.

98. Which of the following statements by a United States corporate officer best fits the situation of United States firms as described in the passage above?

- (A) "We would rather make only a share of the profit and also risk only a share of a possible loss than run the full risk of a loss."
- (B) "We would rather make a share of a relatively modest profit than end up making none of a potentially much bigger profit."
- (C) "We would rather cooperate and build good will than poison the business climate by all-out competition."
- (D) "We would rather have foreign corporations join us in American projects than join them in projects in their home countries."
- (E) "We would rather win a contract with a truly competitive bid of our own than get involved in less profitable collaborative agreements."

99. Which of the following is information provided by the passage above?

- (A) Transnational cooperation involves projects too big for a single corporation to handle.
- (B) Transnational cooperation results in a pooling of resources leading to high-quality performance.
- (C) Transnational cooperation has in the past been both more common and less common than it is now among United States firms.
- (D) Joint projects between United States and foreign corporation are not profitable enough to be worth undertaking.
- (E) Joint projects between United States and foreign corporations benefit only those who commission the projects.

100. A compelling optical illusion called the illusion of velocity and size makes objects appear to be moving more slowly the larger the objects are. Therefore, a motorist's estimate of the time available for crossing a highway with a small car approaching is bound to be lower than it would be with a large truck approaching.

The conclusion above would be more properly drawn if it were made clear that the

- (A) truck's speed is assumed to be lower than the car's
- (B) truck's speed is assumed to be the same as the car's
- (C) truck's speed is assumed to be higher than the car's
- (D) motorist's estimate of time available is assumed to be more accurate with cars approaching than with trucks approaching
- (E) motorist's estimate of time available is assumed to be more accurate with trucks approaching than with cars approaching

101. Biological functions of many plants and animals vary in cycles that are repeated every 24 hours. It is tempting to suppose that alteration in the intensity of incident light is the stimulus that controls these daily biological rhythms. But there is much evidence to contradict this hypothesis.

Which of the following, if known, is evidence that contradicts the hypothesis stated in lines 2-5 above?

- (A) Human body temperature varies throughout the day, with the maximum occurring in the late afternoon and the minimum in the morning.
- (B) While some animals, such as the robin, are more active during the day, others, such as mice, show greater activity at night.
- (C) When people move from one time zone to another, their daily biological rhythms adjust in a matter of days to the periods of sunlight and darkness in the new zone.
- (D) Certain single-cell plants display daily biological rhythms even when the part of the cell containing the nucleus is removed.
- (E) Even when exposed to constant light intensity around the clock, some algae display rates of photosynthesis that are much greater during daylight hours than at night.

102. Although migraine headaches are believed to be caused by food allergies, putting patients on diets that eliminate those foods to which the patients have been demonstrated to have allergic migraine reactions frequently does not stop headaches. Obviously, some other cause of migraine headaches besides food allergies much exist.

Which of the following, if true, would most weaken the conclusion above?

- (A) Many common foods elicit an allergic response only after several days, making it very difficult to observe links between specific foods patients eat and headaches they develop.
- (B) Food allergies affect many people who never develop the symptom of migraine headaches.
- (C) Many patients report that the foods that cause them migraine headaches are among the foods that they most enjoy eating.
- (D) Very few patients have allergic migraine reactions as children live migraine-free adult lives once they have eliminated from their diets foods to which they have been demonstrated to be allergic.
- (E) Very rarely do food allergies cause patients to suffer a symptom more severe than that of migraine headaches.

103. The technological conservatism of bicycle manufacturers is a reflection of the kinds of demand they are trying to meet. The only cyclists seriously interested in innovation and willing to pay for it are bicycle racers. Therefore, innovation in bicycle technology is limited by what authorities will accept as standard for purpose of competition in bicycle races.

Which of the following is an assumption made in drawing the conclusion above?

- (A) The market for cheap, traditional bicycles cannot expand unless the market for high-performance competition bicycles expands.
- (B) High-performance bicycles are likely to be improved more as a result of technological innovations developed in small workshops than as a result of technological innovations developed in major manufacturing concerns.

- (C) Bicycle racers do not generate a strong demand for innovations that fall outside what is officially recognized as standard for purposes of competition.
- (D) The technological conservatism of bicycle manufacturers results primarily from their desire to manufacture a product that can be sold without being altered to suit different national markets.
- (E) The authorities who set standards for high-performance bicycle racing do not keep informed about innovative bicycle design.

104. Spending on research and development by United States businesses for 1984 showed an increase of about 8 percent over the 1983 level. This increase actually continued a downward trend evident since 1981 - when outlays for research and development increased 16.4 percent over 1980 spending. Clearly, the 25 percent tax credit enacted by Congress in 1981, which was intended to promote spending on research and development, did little or nothing to stimulate such spending.

The conclusion of the argument above cannot be true unless which of the following is true?

- (A) Business spending on research and development is usually directly proportional to business profits.
- (B) Business spending for research and development in 1985 could not increase by more than 8.3%.
- (C) Had the 1981 tax credit been set higher than 25%, business spending for research and development after 1981 would have increased more than it did.
- (D) In the absence of the 25% tax credit, business spending for research and development after 1981 would not have been substantially lower than it was.
- (E) Tax credits market for specific investments are rarely effective in inducing businesses to make those investments.

105. Treatment for hypertension forestalls certain medical expenses by preventing strokes and heart disease. Yet any money so saved amounts to only one-fourth of the expenditures required to treat the hypertensive population. Therefore, there is no economic justification for preventive treatment for hypertension.

Which of the following, if true, is most damaging to the conclusion above?

- (A) The many fatal strokes and heart attacks resulting from untreated hypertension cause insignificant medical expenditures but large economic losses of other sorts.
- (B) The cost, per patient, of preventive treatment for hypertension would remain constant even if such treatment were instituted on a large scale.
- (C) In matters of health care, economic considerations should ideally not be dominant.
- (D) Effective prevention presupposes early diagnosis, and programs to ensure early diagnosis are costly.
- (E) The net savings in medical resources achieved by some preventive health measures are smaller than the net losses attributable to certain other measures of this kind.

106. Property taxes are typically set at a flat rate per \$ 1,000 of officially assessed value. Reassessments should be frequent in order to remove distortions that arise when property

values change at differential rates. In practice, however, reassessments typically occur when they benefit the government - that is, when their effect is to increase total tax revenue.

If the statements above are true, which of the following describes a situation in which a reassessment should occur but is unlikely to do so?

- (A) Property values have risen sharply and uniformly.
- (B) Property values have all risen - some very sharply, some less so.
- (C) Property values have for the most part risen sharply yet some have dropped slightly.
- (D) Property values have for the most part dropped significantly; yet some have risen slightly.
- (E) Property values have dropped significantly and uniformly.

107. The number of patents granted to inventors by the United States Patent Office dropped from 56,000 in 1971 to 45,000 in 1978. Spending on research and development, which peaked at 3 percent of the gross national product (GNP) in 1964, was only 2.2 percent of the GNP in 1978. During this period, when the United States percentage was steadily decreasing, West Germany and Japan increased the percentage of their GNP's spent on research and development to 3.2 percent and 1.6 percent, respectively.

Which of the following conclusions is best supported by the information above?

- (A) There is direct relationship between the size of a nation's GNP and the number of inventions it produces.
- (B) Japan and West Germany spent more money on research and development is directly related to the number of inventions patented in that nation.
- (C) The amount of money a nation spends on research and development is directly related to the number of inventions patented in that nation.
- (D) Between 1964 and 1978 the United States consistently spent a larger percentage of its GNP on research and development than did Japan.
- (E) Both West Germany and Japan will soon surpass the United States in the number of patents granted to investors.

108. When three Everett-owned Lightning-built airplanes crashes in the same month, the Everett company ordered three new Lightning-built airplanes as replacements. This decision surprised many in the airline industry because, ordinarily when a product is involved in accidents, users become reluctant to buy that product.

Which of the following, if true, provides the best indication that the Everett company's decision was logically well supported?

- (A) Although during the previous year only one Lightning-built airplane crashed, competing manufacturers had a perfect safety record.
- (B) The Lightning-built airplanes crashed due to pilot error, but because of the excellent quality of the planes there were many survivors.
- (C) The Federal Aviation Association issued new guidelines for airlines in order to standardize safety requirements governing preflight inspections.
- (D) Consumer advocates pressured two major airlines into purchasing safer airplanes so that the public would be safer while flying.
- (E) Many Lightning Airplane Company employees had to be replaced because they found jobs with the competition.

109. Recently a court ruled that current law allows companies to reject a job applicant if working in the job would entail a 90 percent chance that the applicant would suffer a heart attack. The presiding judge justified the ruling, saying that it protected both employees and employers.

The use of this court ruling as part of the law could not be effective in regulating employment practices if which of the following were true?

- (A) The best interests of employers often conflict with the interests of employees.
- (B) No legally accepted methods exist for calculating the risk of a job applicant's having a heart attack as a result of being employed in any particular occupation.
- (C) Some jobs might involve health risks other than the risk of heart attack.
- (D) Employees who have a 90 percent chance of suffering a heart attack may be unaware that their risk is so great.
- (E) The number of people applying for jobs at a company might decline if the company, by screening applicants for risk of heart attack, seemed to suggest that the job entailed high risk of heart attack.

110. Robot satellites relay important communications and identify weather patterns. Because the satellites can be repaired only in orbit, astronauts are needed to repair them. Without repairs, the satellites would eventually malfunction. Therefore, space flights carrying astronauts must continue.

Which of the following, if true, would most seriously weaken the argument above?

- (A) Satellites falling from orbit because of malfunctions burn up in the atmosphere.
- (B) Although satellites are indispensable in the identification of weather patterns, weather forecasters also make some use of computer projections to identify weather patterns.
- (C) The government, responding to public pressure, has decided to cut the budget for space flights and put more money into social welfare programs.
- (D) Repair of satellites requires heavy equipment, which adds to the amount of fuel needed to lift a spaceship carrying astronauts into orbit.
- (E) Technical obsolescence of robot satellites makes repairing them more costly and less practical than sending new, improved satellites into orbit.

111. Advocates of a large-scale space-defense research project conclude that it will represent a net benefit to civilian business. They say that since government-sponsored research will have civilian applications, civilian businesses will reap the rewards of government-developed technology.

Each of the following, if true, raises a consideration arguing against the conclusion above, EXCEPT:

- (A) The development of cost-efficient manufacturing techniques is of the highest priority for civilian business and would be neglected for civilian business and would be neglected if resources go to military projects, which do not emphasize cost efficiency.
- (B) Scientific and engineering talent needed by civilian business will be absorbed by the large-scale project.

- (C) Many civilian businesses will receive subcontracts to provide materials and products needed by the research project.
- (D) If government research money is devoted to the space project, it will not be available for specifically targeted needs of civilian business, where it could be more efficiently used.
- (E) The increase in taxes or government debt needed to finance the project will severely reduce the vitality of the civilian economy.

112. In an attempt to promote the widespread use of paper rather than plastic, and thus reduce nonbiodegradable waste, the council of a small town plans to ban the sale of disposable plastic goods for which substitutes made of paper exist. The council argues that since most paper is entirely biodegradable, paper goods are environmentally preferable.

Which of the following, if true, indicates that the plan to ban the sale of disposable plastic goods is ill suited to the town council's environmental goals?

- (A) Although biodegradable plastic goods are now available, members of the town council believe biodegradable paper goods to be safer for the environment.
- (B) The paper factory at which most of the townspeople are employed plans to increase production of biodegradable paper goods.
- (C) After other towns enacted similar bans on the sale of plastic goods, the environmental benefits were not discernible for several years.
- (D) Since most townspeople prefer plastic goods to paper goods in many instances, they are likely to purchase them in neighboring towns where plastic goods are available for sale.
- (E) Products other than those derived from wood pulp are often used in the manufacture of paper goods that are entirely biodegradable.

113. Since the deregulation of airlines, delays at the nation's increasingly busy airports have increased by 25 percent. To combat this problem, more of the takeoff and landing slots at the busiest airports must be allocated to commercial airlines.

Which of the following, if true, casts the most doubt on the effectiveness of the solution proposed above?

- (A) The major causes of delays at the nation's busiest airports are bad weather and overtaxed air traffic control equipment.
- (B) Since airline deregulation began, the number of airplanes in operation has increased by 25 percent.
- (C) Over 60 percent of the takeoff and landing slots at the nation's busiest airports are reserved for commercial airlines.
- (D) After a small Midwestern airport doubled its allocation of takeoff and landing slots, the number of delays that were reported decreased by 50 percent.
- (E) Since deregulation the average length of delay at the nation's busiest airports has doubled.

114. The more frequently employees take time to exercise during working hours each week, the fewer sick days they take. Even employees who exercise only once a week during working hours take less sick time than those who do not exercise. Therefore, if companies started fitness programs, the absentee rate in those companies would decrease significantly.

Which of the following, if true, most seriously weakens the argument above?

- (A) Employees who exercise during working hours occasionally fall asleep for short periods of time after they exercise.
- (B) Employees who are frequently absent are the least likely to cooperate with or to join a corporate fitness program.
- (C) Employees who exercise only once a week in their company's fitness program usually also exercise after work.
- (D) Employees who exercise in their company's fitness program use their working time no more productively than those who do not exercise.
- (E) Employees who exercise during working hours take slightly longer lunch breaks than employees who do not exercise.

115. Many people argue that tobacco advertising plays a crucial role in causing teen-agers to start or continue smoking. In Norway, however, where there has been a ban on tobacco advertising since 1975, smoking is at least as prevalent among teen-agers as it is in countries that do not ban such advertising.

Which of the following statements draws the most reliable conclusion from the information above?

- (A) Tobacco advertising cannot be the only factor that affects the prevalence of smoking among teen-agers.
- (B) Advertising does not play a role in causing teen-agers to start or continue smoking.
- (C) Banning tobacco advertising does not reduce the consumption of tobacco.
- (D) More teen-agers smoke if they are not exposed to tobacco advertising than if they are.
- (E) Most teen-agers who smoked in 1975 did not stop when the ban on tobacco advertising was implemented.

116. Laws requiring the use of headlights during daylight hours can prevent automobile collisions. However, since daylight visibility is worse in countries farther from the equator, any such laws would obviously be more effective in preventing collisions in those countries. In fact, the only countries that actually have such laws are farther from the equator than is the continental United States.

Which of the following conclusions could be most properly drawn from the information given above?

- (A) Drivers in the continental United States who used their headlights during the day would be just as likely to become involved in a collision as would drivers who did not use their headlights.
- (B) In many countries that are farther from the equator than is the continental United States poor daylight visibility is the single most important factor in automobile collisions.
- (C) The proportion of automobile collisions that occur in the daytime is greater in the continental United States than in the countries that have daytime headlight laws.
- (D) Fewer automobile collisions probably occur each year in countries that have daytime headlight laws than occur within the continental United States.
- (E) Daytime headlight laws would probably do less to prevent automobile collisions in the continental United States than they do in the countries that have the laws.

117. A company's two divisions performed with remarkable consistency over the past three years: in each of those years, the pharmaceuticals division has accounted for roughly 20 percent of dollar sales and 40 percent of profits, and the chemicals division for the balance. Which of the following can properly be inferred regarding the past three years from the statement above?

- (A) Total dollar sales for each of the company's divisions have remained roughly constant.
- (B) The pharmaceuticals division has faced stiffer competition in its markets than has the chemicals division.
- (C) The chemicals division has realized lower profits per dollar of sales than has the pharmaceuticals division.
- (D) The product mix offered by each of the company's divisions has remained unchanged.
- (E) Highly profitable products accounted for a higher percentage of the chemicals division's sales than of those of the pharmaceuticals divisions.

118. According to a review of 61 studies of patients suffering from severely debilitating depression, a large majority of the patients reported that missing a night's sleep immediately lifted their depression. Yet sleep-deprivation is not used to treat depression even though the conventional treatments, which use drugs and electric shocks, often have serious side effects. Which of the following, if true, best explains the fact that sleep-deprivation is not used as a treatment for depression?

- (A) For a small percentage of depressed patients, missing a night's sleep induces a temporary sense of euphoria.
- (B) Keeping depressed patients awake is more difficult than keeping awake people who are not depressed.
- (C) Prolonged loss of sleep can lead to temporary impairment of judgment comparable to that induced by consuming several ounces of alcohol.
- (D) The dramatic shifts in mood connected with sleep and wakefulness have not been traced to particular changes in brain chemistry.
- (E) Depression returns in full force as soon as the patient sleeps for even a few minutes.

Questions 119 - 120 are based on the following.

According to the Tristate Transportation Authority, making certain improvements to the main commuter rail line would increase ridership dramatically. The authority plans to finance these improvements over the course of five years by raising automobile tolls on the two high-way bridges along the route the rail line serves. Although the proposed improvements are indeed needed, the authority's plan for securing the necessary funds should be rejected because it would unfairly force drivers to absorb the entire cost of something from which they receive no benefit.

119. Which of the following, if true, would cast the most doubt on the effectiveness of the authority's plan to finance the proposed improvements by increasing bridge tolls?

- (A) Before the authority increases tolls on any of the area bridges, it is required by law to hold public hearings at which objections to the proposed increase can be raised.

- (B) Whenever bridge tolls are increased, the authority must pay a private contractor to adjust the automated toll-collecting machines.
- (C) Between the time a proposed toll increase is announced and the time the increase is actually put into effect, many commuters buy more tokens than usual to postpone the effects of the increase.
- (D) When tolls were last increased on the two bridges in question, almost 20 percent of the regular commuter traffic switched to a slightly longer alternative route that has since been improved.
- (E) The chairman of the authority is a member of the Tristate Automobile Club that has registered strong opposition to the proposed toll increase.

120. Which of the following, if true, would provide the authority with the strongest counter to the objection that its plan is unfair?

- (A) Even with the proposed toll increase, the average bridge toll in the tristate region would remain less than the tolls charged in neighboring states.
- (B) Any attempt to finance the improvements by raising rail fares would result in a decrease in ridership and so would be self-defeating.
- (C) Automobile commuters benefit from well-maintained bridges, and in the tristate region bridge maintenance is funded out of general income tax revenues to which both automobile and rail commuters contribute.
- (D) The roads along the route served by the rail line are highly congested and drivers benefit when commuters are diverted from congested roadways to mass transit.
- (E) The only alternative way of funding the proposed improvements now being considered is through a regional income tax surcharge, which would affect automobile commuters and rail commuters alike.

121. Manufacturers sometimes discount the price of a product to retailers for a promotion period when the product is advertised to consumers. Such promotion often result in a dramatic increase in amount of product sold by the manufacturers to retailers. Nevertheless, the manufacturers could often make more profit by not holding the promotions.

Which of the following, if true, most strongly supports the claim above about the manufacturers' profit?

- (A) The amount of discount generally offered by manufacturers to retailers is carefully calculated to represent the minimum needed to draw consumers' attention to the product.
- (B) For many consumer products the period of advertising discounted prices to consumers is about a week, not sufficiently long for consumers to become used to the sale price.
- (C) For products that are not newly introduced, the purpose of such promotions is to keep the products in the minds of consumers and to attract consumers who are currently using competing products.
- (D) During such a promotion retailers tend to accumulate in their warehouses inventory bought at discount; they then sell much of it later at their regular price.
- (E) If a manufacturer fails to offer such promotions but its competitor offers them, that competitor will tend to attract consumers away from the manufacturer's product.

122. When people evade income taxes by not declaring taxable income, a vicious cycle results. Tax evasion forces lawmakers to raise income tax rates, which causes the tax burden on nonevading taxpayers to become heavier. This, in turn, encourages even more taxpayers to evade income taxes by hiding taxable income.

The vicious cycle described above could not result unless which of the following were true?

- (A) An increase in tax rates tends to function as an incentive for taxpayers to try to increase their pretax incomes.
- (B) Some methods for detecting tax evaders, and thus recovering some tax revenue lost through evasion, bring in more than they cost, but their success rate varies from years to year.
- (C) When lawmakers establish income tax rates in order to generate a certain level of revenue, they do not allow adequately for revenue that will be lost through evasion.
- (D) No one who routinely hides some taxable income can be induced by a lowering of tax rates to stop hiding such income unless fines for evaders are raised at the same time.
- (E) Taxpayers do not differ from each other with respect to the rate of taxation that will cause them to evade taxes.

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- (E) Taxpayers do not differ from each other with respect to the rate of taxation that will cause them to evade taxes.

124. The local board of education found that, because the current physics curriculum has little direct relevance to today's world, physics classes attracted few high school students. So to attract students to physics classes, the board proposed a curriculum that emphasizes principles of physics involved in producing and analyzing visual images.

Which of the following, if true, provides the strongest reason to expect that the proposed curriculum will be successful in attracting students?

- (A) Several of the fundamental principles of physics are involved in producing and analyzing visual images.

(B) Knowledge of physics is becoming increasingly important in understanding the technology used in today's world.

(C) Equipment that a large producer of photographic equipment has donated to the high school could be used in the proposed curriculum.

(D) The number of students interested in physics today is much lower than the number of students interested in physics 50 years ago.

(E) In today's world the production and analysis of visual images is of major importance in communications, business, and recreation.

125. Unlike the wholesale price of raw wool, the wholesale price of raw cotton has fallen considerably in the last year. Thus, although the retail price of cotton clothing at retail clothing stores has not yet fallen, it will inevitably fall.

Which of the following, if true, most seriously weakens the argument above?

(A) The cost of processing raw cotton for cloth has increased during the last year.

(B) The wholesale price of raw wool is typically higher than that of the same volume of raw cotton.

(C) The operating costs of the average retail clothing store have remained constant during the last year.

(D) Changes in retail prices always lag behind changes in wholesale prices.

(E) The cost of harvesting raw cotton has increased in the last year.

126. Many companies now have employee assistance programs that enable employees, free of charge, to improve their physical fitness, reduce stress, and learn ways to stop smoking. These programs increase worker productivity, reduce absenteeism, and lessen insurance costs for employee health care. Therefore, these programs benefit the company as well as the employee.

Which of the following, if true, most significantly strengthens the conclusion above?

(A) Physical fitness programs are often the most popular services offered to employees.

(B) Studies have shown that training in stress management is not effective for many people.

(C) Regular exercise reduces people's risk of heart disease and provides them with increased energy.

(D) Physical injuries sometimes result from entering a strenuous physical fitness program too quickly.

(E) Employee assistance programs require companies to hire people to supervise the various programs offered.

127. Small-business groups are lobbying to defeat proposed federal legislation that would substantially raise the federal minimum wage. This opposition is surprising since the legislation they oppose would, for the first time, exempt all small businesses from paying any minimum wage.

Which of the following, if true, would best explain the opposition of small-business groups to the proposed legislation?

- (A) Under the current federal minimum-wage law, most small businesses are required to pay no less than the minimum wage to their employees.
- (B) In order to attract workers, small companies must match the wages offered by their larger competitors, and these competitors would not be exempt under the proposed laws.
- (C) The exact number of companies that are currently required to pay no less than the minimum wage but that would be exempt under the proposed laws is unknown.
- (D) Some states have set their own minimum wages---in some cases, quite a bit above the level of the minimum wage mandated by current federal law---for certain key industries.
- (E) Service companies make up the majority of small businesses and they generally employ more employees per dollar of revenues than do retail or manufacturing businesses.

128. Reviewer: The book *Art's Decline* argues that European painters today lack skills that were common among European painters of preceding centuries. In this the book must be right, since its analysis of 100 paintings, 50 old and 50 contemporary, demonstrates convincingly that none of the contemporary paintings are executed as skillfully as the older paintings.

Which of the following points to the most serious logical flaw in the reviewer's argument?

- (A) The paintings chosen by the book's author for analysis could be those that most support the book's thesis.
- (B) There could be criteria other than the technical skill of the artist by which to evaluate a painting.
- (C) The title of the book could cause readers to accept the book's thesis even before they read the analysis of the paintings that supports it.
- (D) The particular methods currently used by European painters could require less artistic skill than do methods used by painters in other parts of the world.
- (E) A reader who was not familiar with the language of art criticism might not be convinced by the book's analysis of the 100 paintings.

129. The pharmaceutical industry argues that because new drugs will not be developed unless heavy development costs can be recouped in later sales, the current 20 years of protection provided by patents should be extended in the case of newly developed drugs. However, in other industries new-product development continues despite high development costs, a fact that indicates that the extension is unnecessary.

Which of the following, if true, most strongly supports the pharmaceutical industry's argument against the challenge made above?

- (A) No industries other than the pharmaceutical industry have asked for an extension of the 20-year limit on patent protection.
- (B) Clinical trials of new drugs, which occur after the patent is granted and before the new drug can be marketed, often now take as long as 10 years to complete.

- (C) There are several industries in which the ratio of research and development costs to revenues is higher than it is in the pharmaceutical industry.
- (D) An existing patent for a drug does not legally prevent pharmaceutical companies from bringing to market alternative drugs, provided they are sufficiently dissimilar to the patented drug.
- (E) Much recent industrial innovation has occurred in products---for example, in the computer and electronics industries---for which patent protection is often very ineffective.

Questions 130-131 are based on the following.

Bank depositors in the United States are all financially protected against bank failure because the government insures all individuals' bank deposits. An economist argues that this insurance is partly responsible for the high rate of bank failures, since it removes from depositors any financial incentive to find out whether the bank that holds their money is secure against failure. If depositors were more selective, then banks would need to be secure in order to compete for depositors' money.

130. The economist's argument makes which of the following assumptions?

- (A) Bank failures are caused when big borrowers default on loan repayments.
- (B) A significant proportion of depositors maintain accounts at several different banks.
- (C) The more a depositor has to deposit, the more careful he or she tends to be in selecting a bank.
- (D) The difference in the interest rates paid to depositors by different banks is not a significant

factor in bank failures.

- (E) Potential depositors are able to determine which banks are secure against failure.

131. Which of the following, if true, most seriously weakens the economist's argument?

- (A) Before the government started to insure depositors against bank failure, there was a lower rate of bank failure than there is now.
- (B) When the government did not insure deposits, frequent bank failures occurred as a result of depositors' fears of losing money in bank failures.
- (C) Surveys show that a significant proportion of depositors are aware that their deposits are insured by the government.
- (D) There is an upper limit on the amount of an individual's deposit that the government will insure, but very few individuals' deposits exceed this limit.
- (E) The security of a bank against failure depends on the percentage of its assets that are loaned out and also on how much risk its loans involve.

132. Passengers must exit airplanes swiftly after accidents, since gases released following accidents are toxic to humans and often explode soon after being released. In order to prevent passenger deaths from gas inhalation, safety officials recommend that passengers be provided with smoke hoods that prevent inhalation of the gases.

Which of the following, if true, constitutes the strongest reason not to require implementation of the safety officials' recommendation?

- (A) Test evacuations showed that putting on the smoke hoods added considerably to the overall time it took passengers to leave the cabin.
- (B) Some airlines are unwilling to buy the smoke hoods because they consider them to be prohibitively expensive.
- (C) Although the smoke hoods protect passengers from the toxic gases, they can do nothing to prevent the gases from igniting.
- (D) Some experienced flyers fail to pay attention to the safety instructions given on every commercial flight before takeoff.
- (E) In many airplane accidents, passengers who were able to reach emergency exits were overcome by toxic gases before they could exit the airplane.

133. In 1960, 10 percent of every dollar paid in automobile insurance premiums went to pay costs arising from injuries incurred in car accidents. In 1990, 50 percent of every dollar paid in automobile insurance premiums went toward such costs, despite the fact that cars were much safer in 1990 than in 1960.

Which of the following, if true, best explains the discrepancy outlined above?

- (A) There were fewer accidents in 1990 than in 1960.
- (B) On average, people drove more slowly in 1990 than in 1960.
- (C) Cars grew increasingly more expensive to repair over the period in question.
- (D) The price of insurance increased more rapidly than the rate of inflation between 1960 and 1990.
- (E) Health-care costs rose sharply between 1960 and 1990.

134. Caterpillars of all species produce an identical hormone called "juvenile hormone" that maintains feeding behavior. Only when a caterpillar has grown to the right size for pupation to take place does a special enzyme halt the production of juvenile hormone. This enzyme can be synthesized and will, on being ingested by immature caterpillars, kill them by stopping them from feeding.

Which of the following, if true, most strongly supports the view that it would not be advisable to try to eradicate agricultural pests that go through a caterpillar stage by spraying croplands with the enzyme mentioned above?

- (A) Most species of caterpillar are subject to some natural predation.
- (B) Many agricultural pests do not go through a caterpillar stage.

- (C) Many agriculturally beneficial insects go through a caterpillar stage.
- (D) Since caterpillars of different species emerge at different times, several sprayings would be necessary.
- (E) Although the enzyme has been synthesized in the laboratory, no large-scale production facilities exist as yet.

135. Although aspirin has been proven to eliminate moderate fever associated with some illnesses, many doctors no longer routinely recommend its use for this purpose. A moderate fever stimulates the activity of the body's disease-fighting white blood cells and also inhibits the growth of many strains of disease-causing bacteria.

If the statements above are true, which of the following conclusions is most strongly supported by them?

- (A) Aspirin, an effective painkiller, alleviates the pain and discomfort of many illnesses.
- (B) Aspirin can prolong a patient's illness by eliminating moderate fever helpful in fighting some diseases.
- (C) Aspirin inhibits the growth of white blood cells, which are necessary for fighting some illnesses.
- (D) The more white blood cells a patient's body produces, the less severe the patient's illness will be.
- (E) The focus of modern medicine is on inhibiting the growth of disease-causing bacteria within the body.

136. Because postage rates are rising, Home Decorator magazine plans to maximize its profits by reducing by one half the number of issues it publishes each year.

The quality of articles, the number of articles published per year, and the subscription price will not change. Market research shows that neither subscribers nor advertisers will be lost if the magazine's plan is instituted.

Which of the following, if true, provides the strongest evidence that the magazine's profits are likely to decline if the plan is instituted?

- (A) With the new postage rates, a typical issue under the proposed plan would cost about one-third more to mail than a typical current issue would.
- (B) The majority of the magazine's subscribers are less concerned about a possible reduction in the quantity of the magazine's articles than about a possible loss of the current high quality of its articles.
- (C) Many of the magazine's long-time subscribers would continue their subscriptions even if the subscription price were increased.
- (D) Most of the advertisers that purchase advertising space in the magazine will continue to spend the same amount on advertising per issue as they have in the past.

(E) Production costs for the magazine are expected to remain stable.

137. A study of marital relationships in which one partner's sleeping and waking cycles differ from those of the other partner reveals that such couples share fewer activities with each other and have more violent arguments than do couples in a relationship in which both partners follow the same sleeping and waking patterns. Thus, mismatched sleeping and waking cycles can seriously jeopardize a marriage.

Which of the following, if true, most seriously weakens the argument above?

- (A) Married couples in which both spouses follow the same sleeping and waking patterns also occasionally have arguments that can jeopardize the couple's marriage.
- (B) The sleeping and waking cycles of individuals tend to vary from season to season.
- (C) The individuals who have sleeping and waking cycles that differ significantly from those of their spouses tend to argue little with colleagues at work.
- (D) People in unhappy marriages have been found to express hostility by adopting a different sleeping and waking cycle from that of their spouses.
- (E) According to a recent study, most people's sleeping and waking cycles can be controlled and modified easily.

Questions 138-139 are based on the following.

Roland: The alarming fact is that 90 percent of the people in this country now report that they know someone who is unemployed.

Sharon: But a normal, moderate level of unemployment is 5 percent, with 1 out of 20 workers unemployed. So at any given time if a person knows approximately 50 workers, 1 or more will very likely be unemployed.

138. Sharon's argument is structured to lead to which of the following as a conclusion?

- (A) The fact that 90% of the people know someone who is unemployed is not an indication that unemployment is abnormally high.
- (B) The current level of unemployment is not moderate.
- (C) If at least 5% of workers are unemployed, the result of questioning a representative group of people cannot be the percentage Roland cites.
- (D) It is unlikely that the people whose statements Roland cites are giving accurate reports.
- (E) If an unemployment figure is given as a certain percent, the actual percentage of those without jobs is even higher.

139. Sharon's argument relies on the assumption that

- (A) normal levels of unemployment are rarely exceeded
- (B) unemployment is not normally concentrated in geographically isolated segments of the population
- (C) the number of people who each know someone who is unemployed is always higher than 90% of the population

- (D) Roland is not consciously distorting the statistics he presents
- (E) knowledge that a personal acquaintance is unemployed generates more fear of losing one's job than does knowledge of unemployment statistics

140. A report on acid rain concluded, " Most forests in Canada are not being damaged by acid rain." Critics of the report insist the conclusion be changed to, "Most forests in Canada do not show visible symptoms of damage by acid rain, such as abnormal loss of leaves, slower rates of growth, or higher mortality."

Which of the following, if true, provides the best logical justification for the critics' insistence that the report's conclusion be changed?

- (A) Some forests in Canada are being damaged by acid rain.
- (B) Acid rain could be causing damage for which symptoms have not yet become visible.
- (C) The report does not compare acid rain damage to Canadian forests with acid rain damage to forests in other countries.
- (D) All forests in Canada have received acid rain during the past fifteen years.
- (E) The severity of damage by acid rain differs from forest to forest.

141. In the past most airline companies minimized aircraft weight to minimize fuel costs. The safest airline seats were heavy, and airlines equipped their planes with few of these seats. This year the seat that has sold best to airlines has been the safest one—a clear indication that airlines are assigning a higher priority to safe seating than to minimizing fuel costs.

Which of the following, if true, most seriously weakens the argument above?

- (A) Last year's best-selling airline seat was not the safest airline seat on the market.
- (B) No airline company has announced that it would be making safe seating a higher priority this year.
- (C) The price of fuel was higher this year than it had been in most of the years when the safest airline seats sold poorly.
- (D) Because of increases in the cost of materials, all airline seats were more expensive to manufacture this year than in any previous year.
- (E) Because of technological innovations, the safest airline seat on the market this year weighed less than most other airline seats on the market.

142. A computer equipped with signature-recognition software, which restricts access to a computer to those people whose signatures are on file, identifies a person's signature by analyzing not only the form of the signature but also such characteristics as pen pressure and signing speed. Even the most adept forgers cannot duplicate all of the characteristics the program analyzes.

Which of the following can be logically concluded from the passage above?

- (A) The time it takes to record and analyze a signature makes the software impractical for everyday use.
- (B) Computers equipped with the software will soon be installed in most banks.

- (C) Nobody can gain access to a computer equipped with the software solely by virtue of skill at forging signatures.
- (D) Signature-recognition software has taken many years to develop and perfect.
- (E) In many cases even authorized users are denied legitimate access to computers equipped with the software.

143. Division manager: I want to replace the Microton computers in my division with Vitech computers.

General manager: Why?

Division manager: It costs 28 percent less to train new staff on the Vitech.

General manager: But that is not a good enough reason. We can simply hire only people who already know how to use the Microton computer.

Which of the following, if true, most seriously undermines the general manager's objection to the replacement of Microton computers with Vitechs?

- (A) Currently all employees in the company are required to attend workshops on how to use Microton computers in new applications.
- (B) Once employees learn how to use a computer, they tend to change employers more readily than before.
- (C) Experienced users of Microton computers command much higher salaries than do prospective employees who have no experience in the use of computers.
- (D) The average productivity of employees in the general manager's company is below the average productivity of the employees of its competitors.
- (E) The high costs of replacement parts make Vitech computers more expensive to maintain than Microton computers.

144. An airplane engine manufacturer developed a new engine model with safety features lacking in the earlier model, which was still being manufactured. During the first year that both were sold, the earlier model far outsold the new model; the manufacturer thus concluded that safety was not the customers' primary consideration.

Which of the following, if true, would most seriously weaken the manufacturer's conclusion?

- (A) Both private plane owners and commercial airlines buy engines from this airplane engine manufacturer.
- (B) Many customers consider earlier engine models better safety risks than new engine models, since more is usually known about the safety of the earlier models.
- (C) Many customers of this airplane engine manufacturer also bought airplane engines from manufacturers who did not provide additional safety features in their newer models.
- (D) The newer engine model can be used in all planes in which the earlier engine model can be used.
- (E) There was no significant difference in price between the newer engine model and the earlier engine model.

145. Between 1975 and 1985, nursing-home occupancy rates averaged 87 percent of capacity, while admission rates remained constant, at an average of 95 admissions per 1,000 beds per year. Between 1985 and 1988, however, occupancy rates rose to an average of 92 percent of capacity, while admission rates declined to 81 per 1,000 beds per year.

If the statements above are true, which of the following conclusions can be most properly drawn?

- (A) The average length of time nursing-home residents stayed in nursing homes increased between 1985 and 1988.
- (B) The proportion of older people living in nursing homes was greater in 1988 than in 1975.
- (C) Nursing home admission rates tend to decline whenever occupancy rates rise.
- (D) Nursing homes built prior to 1985 generally had fewer beds than did nursing homes built between 1985 and 1988.
- (E) The more beds a nursing home has, the higher its occupancy rate is likely to be.

146. Firms adopting "profit-related-pay" (PRP) contracts pay wages at levels that vary with the firm's profits. In the metalworking industry last year, firms with PRP contracts in place showed productivity per worker on average 13 percent higher than that of their competitors who used more traditional contracts.

If, on the basis of the evidence above, it is argued that PRP contracts increase worker productivity, which of the following, if true, would most seriously weaken that argument?

- (A) Results similar to those cited for the metal-working industry have been found in other industries where PRP contracts are used.
- (B) Under PRP contracts costs other than labor costs, such as plant, machinery, and energy, make up an increased proportion of the total cost of each unit of output.
- (C) Because introducing PRP contracts greatly changes individual workers' relationships to the firm, negotiating the introduction of PRP contracts is complex and time consuming.
- (D) Many firms in the metalworking industry have modernized production equipment in the last five years, and most of these introduced PRP contracts at the same time.
- (E) In firms in the metalworking industry where PRP contracts are in place, the average take-home pay is 15 percent higher than it is in those firms where workers have more traditional contracts.

147. Crops can be traded on the futures market before they are harvested. If a poor corn harvest is predicted, prices of corn futures rise; if a bountiful corn harvest is predicted, prices of corn futures fall. This morning meteorologists are predicting much-needed rain for the corn-growing region starting tomorrow. Therefore, since adequate moisture is essential for the current crop's survival, prices of corn futures will fall sharply today.

Which of the following, if true, most weakens the argument above?

- (A) Corn that does not receive adequate moisture during its critical pollination stage will not produce a bountiful harvest.

- (B) Futures prices for corn have been fluctuating more dramatically this season than last season.
- (C) The rain that meteorologists predicted for tomorrow is expected to extend well beyond the corn-growing region.
- (D) Agriculture experts announced today that a disease that has devastated some of the corn crop will spread widely before the end of the growing season.
- (E) Most people who trade in corn futures rarely take physical possession of the corn they trade.

148. A discount retailer of basic household necessities employs thousands of people and pays most of them at the minimum wage rate. Yet following a federally mandated increase of the minimum wage rate that increased the retailer's operating costs considerably, the retailer's profits increased markedly.

Which of the following, if true, most helps to resolve the apparent paradox?

- (A) Over half of the retailer's operating costs consist of payroll expenditures; yet only a small percentage of those expenditures go to pay management salaries.
- (B) The retailer's customer base is made up primarily of people who earn, or who depend on the earnings of others who earn, the minimum wage.
- (C) The retailer's operating costs, other than wages, increased substantially after the increase in the minimum wage rate went into effect.
- (D) When the increase in the minimum wage rate went into effect, the retailer also raised the age rate for employees who had been earning just above minimum wage.
- (E) The majority of the retailer's employees work as cashiers, and most cashiers are paid the minimum wage.

149. The cotton farms of Country Q became so productive that the market could not absorb all that they produced. Consequently, cotton prices fell. The government tried to boost cotton prices by offering farmers who took 25 percent of their cotton acreage out of production direct support payments up to a specified maximum per farm.

The government's program, if successful, will not be a net burden on the budget. Which of the following, if true, is the best basis for an explanation of how this could be so?

- (A) Depressed cotton prices meant operating losses for cotton farms, and the government lost revenue from taxes on farm profits.
- (B) Cotton production in several counties other than Q declined slightly the year that the support-payment program went into effect in Q.
- (C) The first year that the support-payment program was in effect, cotton acreage in Q was 5% below its level in the base year for the program.
- (D) The specified maximum per farm meant that for very large cotton farms the support payments were less per acre for those acres that were withdrawn from production than they were for smaller farms.
- (E) Farmers who wished to qualify for support payments could not use the cotton acreage that was withdrawn from production to grow any other crop.

150. United States hospitals have traditionally relied primarily on revenues from paying patients to offset losses from unreimbursed care. Almost all paying patients now rely on governmental or private health insurance to pay hospital bills. Recently, insurers have been strictly limiting what they pay hospitals for the care of insured patients to amounts at or below actual costs.

Which of the following conclusions is best supported by the information above?

- (A) Although the advance of technology has made expensive medical procedures available to the wealthy, such procedures are out of the reach of low-income patients.
- (B) If hospitals do not find ways to raising additional income for unreimbursed care, they must either deny some of that care or suffer losses if they give it.
- (C) Some patients have incomes too high for eligibility for governmental health insurance but are unable to afford private insurance for hospital care.
- (D) If the hospitals reduce their costs in providing care, insurance companies will maintain the current level of reimbursement, thereby providing more funds for unreimbursed care.
- (E) Even though philanthropic donations have traditionally provided some support for the hospitals, such donations are at present declining.

151. Generally scientists enter their field with the goal of doing important new research and accept as their colleagues those with similar motivation. Therefore, when any scientist wins renown as an expounder of science to general audiences, most other scientists conclude that this popularizer should no longer be regarded as a true colleague.

The explanation offered above for the low esteem in which scientific popularizers are held by research scientists assumes that

- (A) serious scientific research is not a solitary activity, but relies on active cooperation among a group of colleagues
- (B) research scientists tend not to regard as colleagues those scientists whose renown they envy
- (C) a scientist can become a famous popularizer without having completed any important research
- (D) research scientists believe that those who are well known as popularizers of science are not motivated to do important new research
- (E) no important new research can be accessible to or accurately assessed by those who are not themselves scientists

152. Mouth cancer is a danger for people who rarely brush their teeth. In order to achieve early detection of mouth cancer in these individuals, a town's public health officials sent a pamphlet to all town residents, describing how to perform weekly self-examinations of the mouth for lumps.

Which of the following, if true, is the best criticism of the pamphlet as a method of achieving the public health officials' goal?

- (A) Many dental diseases produce symptoms that cannot be detected in a weekly self-examination.
- (B) Once mouth cancer has been detected, the effectiveness of treatment can vary from person to person.
- (C) The pamphlet was sent to all town residents, including those individuals who brush their teeth regularly.
- (D) Mouth cancer is much more common in adults than in children.
- (E) People who rarely brush their teeth are unlikely to perform a weekly examination of their mouth.

153. Technological improvements and reduced equipment costs have made converting solar energy directly into electricity far more cost-efficient in the last decade. However, the threshold of economic viability for solar power (that is, the price per barrel to which oil would have to rise in order for new solar power plants to be more economical than new oil-fired power plants) is unchanged at thirty-five dollars.

Which of the following, if true, does most to help explain why the increased cost-efficiency of solar power has not decreased its threshold of economic viability?

- (A) The cost of oil has fallen dramatically.
- (B) The reduction in the cost of solar-power equipment has occurred despite increased raw material costs for that equipment.
- (C) Technological changes have increased the efficiency of oil-fired power plants.
- (D) Most electricity is generated by coal-fired or nuclear, rather than oil-fired, power plants.
- (E) When the price of oil increases, reserves of oil not previously worth exploiting become economically viable.

154. Start-up companies financed by venture capitalist have a much lower failure rate than companies financed by other means. Source of financing, therefore, must be a more important causative factor in the success of a start-up company than are such factors as the personal characteristics of the entrepreneur, the quality of strategic planning, or the management structure of the company.

Which of the following, if true, most seriously weakens the argument above?

- (A) Venture capitalists tend to be more responsive than other sources of financing to changes in a start-up company's financial needs.
- (B) The strategic planning of a start-up company is a less important factor in the long-term success of the company than are the personal characteristics of the entrepreneur.
- (C) More than half of all new companies fall within five years.
- (D) The management structures of start-up companies are generally less formal than the management structures of ongoing businesses.
- (E) Venture capitalists base their decisions to fund start-up companies on such factors as the characteristics of the entrepreneur and quality of strategic planning of the company.

155. The proportion of women among students enrolled in higher education programs has increased over the past decades. This is partly shown by the fact that in 1959, only 11 percent of the women between twenty and twenty-one were enrolled in college, while in 1981, 30 percent of the women between twenty and twenty-one were enrolled in college.

To evaluate the argument above, it would be most useful to compare 1959 and 1981 with regard to which of the following characteristics?

- (A) The percentage of women between twenty and twenty-one who were not enrolled in college
- (B) The percentage of women between twenty and twenty-five who graduated from college
- (C) The percentage of women who, after attending college, entered highly paid professions
- (D) The percentage of men between twenty and twenty-one who were enrolled in college
- (E) The percentage of men who graduated from high school

Questions 156-157 are based on the following.

Companies O and P each have the same number of employees who work the same number of hours per week. According to records maintained by each company, the employees of Company O had fewer job-related accidents last year than did the employees of Company P. Therefore, employees of Company O are less likely to have job-related accidents than are employees of Company P.

156. Which of the following, if true, would most strengthen the conclusion above?

- (A) Company P manufactures products that are more hazardous for workers to produce than does Company O.
- (B) Company P holds more safety inspections than does Company O.
- (C) Company P maintains a more modern infirmary than does Company O.
- (D) Company O paid more for new job-related medical claims than did Company P.
- (E) Company P provides more types of health-care benefits than does Company O.

157. Which of the following, if true, would most weaken the conclusion above?

- (A) The employees of Company P lost more time at work due to job-related accidents than did the employees of Company O.
- (B) Company P considered more types of accidents to be job-related than did Company O.
- (C) The employees of Company P were sick more often than were the employees of Company O.
- (D) Several employees of Company O each had more than one job-related accident.
- (E) The majority of job-related accidents at Company O involved a single machine.

158. In comparison to the standard typewriter keyboard, the EFCO keyboard, which places the most-used keys nearest the typist's strongest fingers, allows faster typing and results in less

fatigue. Therefore, replacement of standard keyboards with the EFCO keyboard will result in an immediate reduction of typing costs.

Which of the following, if true, would most weaken the conclusion drawn above?

- (A) People who use both standard and EFCO keyboards report greater difficulty in the transition from the EFCO keyboard to the standard keyboard than in the transition from the standard keyboard to the EFCO keyboard.
- (B) EFCO keyboards are no more expensive to manufacture than are standard keyboards and require less frequent repair than do standard keyboards.
- (C) The number of businesses and government agencies that use EFCO keyboards is increasing each year.
- (D) The more training and experience an employee has had with the standard keyboard, the more costly it is to train that employee to use the EFCO keyboard.
- (E) Novice typists can learn to use the EFCO keyboard in about the same amount of time it takes them to learn to use the standard keyboard.

Questions 159-160 are based on the following.

Half of the subjects in an experiment—the experimental group—consumed large quantities of a popular artificial sweetener. Afterward, this group showed lower cognitive abilities than did the other half of the subjects—the control group—who did not consume the sweetener. The detrimental effects were attributed to an amino acid that is one of the sweetener's principal constituents.

159. Which of the following, if true, would best support the conclusion that some ingredient of the sweetener was responsible for the experimental results?

- (A) Most consumers of the sweetener do not consume as much of it as the experimental group members did.
- (B) The amino acid referred to in the conclusion is a component of all proteins, some of which must be consumed for adequate nutrition.
- (C) The quantity of the sweetener consumed by individuals in the experimental group is considered safe by federal food regulators.
- (D) The two groups of subjects were evenly matched with regard to cognitive abilities prior to the experiment.
- (E) A second experiment in which subjects consumed large quantities of the sweetener lacked a control group of subjects who were not given the sweetener.

160. Which of the following, if true, would best help explain how the sweetener might produce the observed effect?

- (A) The government's analysis of the artificial sweetener determined that it was sold in relatively pure form.
- (B) A high level of the amino acid in the blood inhibits the synthesis of a substance required for normal brain functioning.
- (C) Because the sweetener is used primarily as a food additive, adverse reactions to it are rarely noticed by consumers.

- (D) The amino acid that is a constituent of the sweetener is also sold separately as a dietary supplement.
- (E) Subjects in the experiment did not know whether they were consuming the sweetener or a second, harmless substance.

161. Adult female rats who have never before encountered rat pups will start to show maternal behaviors after being confined with a pup for about seven days. This period can be considerably shortened by disabling the female's sense of smell or by removing the scent-producing glands of the pup.

Which of the following hypotheses best explains the contrast described above?

- (A) The sense of smell in adult female rats is more acute than that in rat pups.
- (B) The amount of scent produced by rat pups increases when they are in the presence of a female rat that did not bear them.
- (C) Female rats that have given birth are more affected by olfactory cues than are female rats that have never given birth.
- (D) A female rat that has given birth shows maternal behavior toward rat pups that she did not bear more quickly than does a female rat that has never given birth.
- (E) The development of a female rat's maternal interest in a rat pup that she did not bear is inhibited by the odor of the pup.

162. The interview is an essential part of a successful hiring program because, with it, job applicants who have personalities that are unsuited to the requirements of the job will be eliminated from consideration.

The argument above logically depends on which of the following assumptions?

- (A) A hiring program will be successful if it includes interviews.
- (B) The interview is a more important part of a successful hiring program than is the development of a job description.
- (C) Interviewers can accurately identify applicants whose personalities are unsuited to the requirements of the job.
- (D) The only purpose of an interview is to evaluate whether job applicants' personalities are suited to the requirements of the job.
- (E) the fit of job applicants' personalities to the requirements of the job was once the most important factor in making hiring decisions.

163. An overly centralized economy, not the changes in the climate, is responsible for the poor agricultural production in Country X since its new government came to power. Neighboring Country Y has experienced the same climatic conditions, but while agricultural production has been falling in Country X, it has been rising in Country Y.

Which of the following, if true, would most weaken the argument above?

- (A) Industrial production also is declining in Country X.
- (B) Whereas Country Y is landlocked, Country X has a major seaport.
- (C) Both Country X and Country Y have been experiencing drought conditions.

- (D) The crops that have always been grown in Country X are different from those that have always been grown in Country Y.
- (E) Country X's new government instituted a centralized economy with the intention of ensuring an equitable distribution of goods.

164. Useful protein drugs, such as insulin, must still be administered by the cumbersome procedure of injection under the skin. If proteins are taken orally, they are digested and cannot reach their target cells. Certain nonprotein drugs, however, contain chemical bonds that are not broken down by the digestive system. They can, thus, be taken orally.

The statements above most strongly support a claim that a research procedure that successfully accomplishes which of the following would be beneficial to users of protein drugs?

- (A) Coating insulin with compounds that are broken down by target cells, but whose chemical bonds are resistant to digestion
 - (B) Converting into protein compounds, by procedures that work in the laboratory, the nonprotein drugs that resist digestion
 - (C) Removing permanently from the digestive system any substances that digest proteins
 - (D) Determining, in a systematic way, what enzymes and bacteria are present in the normal digestive system and whether they tend to be broken down within the body
 - (E) Determining the amount of time each nonprotein drug takes to reach its target cells.
165. Country Y uses its scarce foreign-exchange reserves to buy scrap iron for recycling into steel. Although the steel thus produced earns more foreign exchange than it costs, that policy is foolish. Country Y's own territory has vast deposits of iron ore, which can be mined with minimal expenditure of foreign exchange.

Which of the following, if true, provides the strongest support for Country Y's policy of buying scrap iron abroad?

- (A) The price of scrap iron on international markets rose significantly in 1987.
 - (B) Country Y's foreign-exchange reserves dropped significantly in 1987.
 - (C) There is virtually no difference in quality between steel produced from scrap iron and that produced from iron ore.
 - (D) Scrap iron is now used in the production of roughly half the steel used in the world today, and experts predict that scrap iron will be used even more extensively in the future.
 - (E) Furnaces that process scrap iron can be built and operated in Country Y with substantially less foreign exchange than can furnaces that process iron ore.
166. Last year the rate of inflation was 1.2 percent, but for the current year it has been 4 percent. We can conclude that inflation is on an upward trend and the rate will be still higher next year.

Which of the following, if true, most seriously weakens the conclusion above?

- (A) The inflation figures were computed on the basis of a representative sample of economic data rather than all of the available data.
- (B) Last year a dip in oil prices brought inflation temporarily below its recent stable annual level of 4 percent.
- (C) Increases in the pay of some workers are tied to the level of inflation, and at an inflation rate of 4 percent or above, these pay raises constitute a force causing further inflation.
- (D) The 1.2 percent rate of inflation last year represented a ten-year low.
- (E) Government intervention cannot affect the rate of inflation to any significant degree.

167. Because no employee wants to be associated with bad news in the eyes of a superior, information about serious problems at lower levels is progressively softened and distorted as it goes up each step in the management hierarchy. The chief executive is, therefore, less well informed about problems at lower levels than are his or her subordinates at those levels.

The conclusion drawn above is based on the assumption that

- (A) problems should be solved at the level in the management hierarchy at which they occur
- (B) employees should be rewarded for accurately reporting problems to their superiors
- (C) problem-solving ability is more important at higher levels than it is at lower levels of the management hierarchy
- (D) chief executives obtain information about problems at lower levels from no source other than their subordinates
- (E) some employees are more concerned about truth than about the way they are perceived by their superiors

168. In the United States in 1986, the average rate of violent crime in states with strict gun-control laws was 645 crimes per 100,000 persons—about 50 percent higher than the average rate in the eleven states where strict gun-control laws have never been passed. Thus one way to reduce violent crime is to repeal strict gun control laws.

Which of the following, if true, would most weaken the argument above?

- (A) The annual rate of violent crime in states with strict gun-control laws has decreased since the passage of those laws.
- (B) In states with strict gun-control laws, few individuals are prosecuted for violating such laws.
- (C) In states without strict gun-control laws, many individuals have had no formal training in the use of firearms.
- (D) The annual rate of nonviolent crime is lower in states with strict gun-control laws than in states without such laws.
- (E) Less than half of the individuals who reside in states without strict gun-control laws own a gun.

169. Corporate officers and directors commonly buy and sell, for their own portfolios, stock in their own corporations. Generally, when the ratio of such inside sales to inside purchases falls below 2 to 1 for a given stock, a rise in stock prices is imminent. In recent days, while the price of MEGA Corporation stock has been falling, the corporation's officers and directors have bought up to nine times as much of it as they have sold.

The facts above best support which of the following predictions?

- (A) The imbalance between inside purchases and inside sales of MEGA stock will grow even further.
- (B) Inside purchases of MEGA stock are about to cease abruptly.
- (C) The price of MEGA stock will soon begin to go up.
- (D) The price of MEGA stock will continue to drop, but less rapidly.
- (E) The majority of MEGA stock will soon be owned by MEGA's own officers and directors.

170. The proposal to hire ten new police officers in Middletown is quite foolish. There is sufficient funding to pay the salaries of the new officers, but not the salaries of additional court and prison employees to process the increased caseload of arrests and convictions that new officers usually generate.

Which of the following, if true, will most seriously weaken the conclusion drawn above?

- (A) Studies have shown that an increase in a city's police force does not necessarily reduce crime.
- (B) When one major city increased its police force by 19 percent last year, there were 40 percent more arrests and 13 percent more convictions.
- (C) If funding for the new police officers' salaries is approved, support for other city services will have to be reduced during the next fiscal year.
- (D) In most United States cities, not all arrests result in convictions, and not all convictions result in prison terms.
- (E) Middletown's ratio of police officers to citizens has reached a level at which an increase in the number of officers will have a deterrent effect on crime.

171. A recent report determined that although only three percent of drivers on Maryland highways equipped their vehicles with radar detectors, thirty-three percent of all vehicles ticketed for exceeding the speed limit were equipped with them. Clearly, drivers who equip their vehicles with radar detectors are more likely to exceed the speed limit regularly than are drivers who do not.

The conclusion drawn above depends on which of the following assumptions?

- (A) Drivers who equip their vehicles with radar detectors are less likely to be ticketed for exceeding the speed limit than are drivers who do not.
- (B) Drivers who are ticketed for exceeding the speed limit are more likely to exceed the speed limit regularly than are drivers who are not ticketed.
- (C) The number of vehicles that were ticketed for exceeding the speed limit was greater than the number of vehicles that were equipped with radar detectors.

- (D) Many of the vehicles that were ticketed for exceeding the speed limit were ticketed more than once in the time period covered by the report.
- (E) Drivers on Maryland highways exceeded the speed limit more often than did drivers on other state highways not covered in the report.

172. There is a great deal of geographical variation in the frequency of many surgical procedures—up to tenfold variation per hundred thousand between different areas in the numbers of hysterectomies, prostatectomies, and tonsillectomies.

To support a conclusion that much of the variation is due to unnecessary surgical procedures, it would be most important to establish which of the following?

- (A) A local board of review at each hospital examines the records of every operation to determine whether the surgical procedure was necessary.
- (B) The variation is unrelated to factors (other than the surgical procedures themselves) that influence the incidence of diseases for which surgery might be considered.
- (C) There are several categories of surgical procedure (other than hysterectomies, prostatectomies, and tonsillectomies) that are often performed unnecessarily.
- (D) For certain surgical procedures, it is difficult to determine after the operation whether the procedures were necessary or whether alternative treatment would have succeeded.
- (E) With respect to how often they are performed unnecessarily, hysterectomies, prostatectomies, and tonsillectomies are representative of surgical procedures in general.

173. Researchers have found that when very overweight people, who tend to have relatively low metabolic rates, lose weight primarily through dieting, their metabolisms generally remain unchanged. They will thus burn significantly fewer calories at the new weight than do people whose weight is normally at that level. Such newly thin persons will, therefore, ultimately regain weight until their body size again matches their metabolic rate.

The conclusion of the argument above depends on which of the following assumptions?

- (A) Relatively few very overweight people who have dieted down to a new weight tend to continue to consume substantially fewer calories than do people whose normal weight is at that level.
- (B) The metabolisms of people who are usually not overweight are much more able to vary than the metabolisms of people who have been very overweight.
- (C) The amount of calories that a person usually burns in a day is determined more by the amount that is consumed that day than by the current weight of the individual.
- (D) Researchers have not yet determined whether the metabolic rates of formerly very overweight individuals can be accelerated by means of chemical agents.
- (E) Because of the constancy of their metabolic rates, people who are at their usual weight normally have as much difficulty gaining weight as they do losing it.

174. In 1987 sinusitis was the most common chronic medical condition in the United States, followed by arthritis and high blood pressure, in that order.

The incidence rates for both arthritis and high blood pressure increase with age, but the incidence rate for sinusitis is the same for people of all ages.

The average age of the United States population will increase between 1987 and 2000.

Which of the following conclusions can be most properly drawn about chronic medical conditions in the United States from the information given above?

- (A) Sinusitis will be more common than either arthritis or high blood pressure in 2000.
- (B) Arthritis will be the most common chronic medical condition in 2000.
- (C) The average age of people suffering from sinusitis will increase between 1987 and 2000.
- (D) Fewer people will suffer from sinusitis in 2000 than suffered from it in 1987.
- (E) A majority of the population will suffer from at least one of the medical conditions mentioned above by the year 2000.

175. Parasitic wasps lay their eggs directly into the eggs of various host insects in exactly the right numbers for any suitable size of host egg. If they laid too many eggs in a host egg, the developing wasp larvae would compete with each other to the death for nutrients and space. If too few eggs were laid, portions of the host egg would decay, killing the wasp larvae.

Which of the following conclusions can properly be drawn from the information above?

- (A) The size of the smallest host egg that a wasp could theoretically parasitize can be determined from the wasp's egg-laying behavior.
- (B) Host insects lack any effective defenses against the form of predation practiced by parasitic wasps.
- (C) Parasitic wasps learn from experience how many eggs to lay into the eggs of different host species.
- (D) Failure to lay enough eggs would lead to the death of the developing wasp larvae more quickly than would laying too many eggs.
- (E) Parasitic wasps use visual clues to calculate the size of a host egg.

176. Northern Air has dozens of flights daily into and out of Belleville Airport, which is highly congested. Northern Air depends for its success on economy and quick turnaround and consequently is planning to replace its large planes with Skybuses, whose novel aerodynamic design is extremely fuel efficient. The Skybus' fuel efficiency results in both lower fuel costs and reduced time spent refueling.

Which of the following, if true, could present the most serious disadvantage for Northern Air in replacing their large planes with Skybuses?

- (A) The Skybus would enable Northern Air to schedule direct flights to destinations that currently require stops for refueling.
- (B) Aviation fuel is projected to decline in price over the next several years.
- (C) The fuel efficiency of the Skybus would enable Northern Air to eliminate refueling at some of its destinations, but several mechanics would lose their jobs.
- (D) None of Northern Air's competitors that use Belleville Airport are considering buying Skybuses.
- (E) The aerodynamic design of the Skybus causes turbulence behind it when taking off that forces other planes on the runway to delay their takeoffs.

177. Products sold under a brand name used to command premium prices because, in general, they were superior to nonbrand rival products. Technical expertise in product development has become so widespread, however, that special quality advantages are very hard to obtain these days and even harder to maintain. As a consequence, brand-name products generally neither offer higher quality nor sell at higher prices. Paradoxically, brand names are a bigger marketing advantage than ever.

Which of the following, if true, most helps to resolve the paradox outlined above?

- (A) Brand names are taken by consumers as a guarantee of getting a product as good as the best rival products.
- (B) Consumers recognize that the quality of products sold under invariant brand names can drift over time.
- (C) In many acquisitions of one corporation by another, the acquiring corporation is interested more in acquiring the right to use certain brand names than in acquiring existing production facilities.
- (D) In the days when special quality advantages were easier to obtain than they are now, it was also easier to get new brand names established.
- (E) The advertising of a company's brand-name products is at times transferred to a new advertising agency, especially when sales are declining.

178. In countries in which new life-sustaining drugs cannot be patented, such drugs are sold at widely affordable prices; those same drugs, where patented, command premium prices because the patents shield patent-holding manufacturers from competitors. These facts show that future access to new life-sustaining drugs can be improved if the practice of granting patents on newly developed life-sustaining drugs were to be abolished everywhere.

Which of the following, if true, most seriously weakens the argument?

- (A) In countries in which life-sustaining drugs cannot be patented, their manufacture is nevertheless a profitable enterprise.
- (B) Countries that do not currently grant patents on life-sustaining drugs are, for the most part, countries with large populations.
- (C) In some countries specific processes for the manufacture of pharmaceutical drugs can be patented even in cases in which the drugs themselves cannot be patented.
- (D) Pharmaceutical companies can afford the research that goes into the development of new drugs only if patents allow them to earn high profits.
- (E) Countries that grant patents on life-sustaining drugs almost always ban their importation from countries that do not grant such patents.

179. A museum has been offered an undocumented statue, supposedly Greek and from the sixth century B.C. Possibly the statue is genuine but undocumented because it was recently unearthed or because it has been privately owned. However, an ancient surface usually has uneven weathering, whereas the surface of this statue has the uniform quality characteristically produced by a chemical bath used by forgers to imitate a weathered surface. Therefore, the statue is probably a forgery.

Which of the following, if true, most seriously weakens the argument?

- (A) Museums can accept a recently unearthed statue only with valid export documentation from its country of origin.
- (B) The subject's pose and other aspects of the subject's treatment exhibit all the most common features of Greek statues of the sixth century B.C.
- (C) The chemical bath that forgers use was at one time used by dealers and collectors to remove the splotchy surface appearance of genuinely ancient sculptures.
- (D) Museum officials believe that forgers have no technique that can convincingly simulate the patchy weathering characteristic of the surfaces of ancient sculptures.
- (E) An allegedly Roman sculpture with a uniform surface similar to that of the stature being offered to the museum was recently shown to be a forgery.

180. In the arid land along the Colorado River, use of the river's water supply is strictly controlled: farms along the river each have a limited allocation that they are allowed to use for irrigation. But the trees that grow in narrow strips along the river's banks also use its water. Clearly, therefore, if farmers were to remove those trees, more water would be available for crop irrigation.

Which of the following, if true, most seriously weakens the argument?

- (A) The trees along the river's banks shelter it from the sun and wind, thereby greatly reducing the amount of water lost through evaporation.
- (B) Owners of farms along the river will probably not undertake the expense of cutting down trees along the banks unless they are granted a greater allocation of water in return.
- (C) Many of the tree species currently found along the river's banks are specifically adapted to growing in places where tree roots remain constantly wet.
- (D) The strip of land where trees grow along the river's banks would not be suitable for growing crops if the trees were removed.
- (E) The distribution of water allocations for irrigation is intended to prevent farms farther upstream from using water needed by farms farther downstream.

181. Consumer health advocate: Your candy company adds caffeine to your chocolate candy bars so that each one delivers a specified amount of caffeine. Since caffeine is highly addictive, this indicates that you intend to keep your customers addicted.

Candy manufacturer: Our manufacturing process results in there being less caffeine in each chocolate candy bar than in the unprocessed cacao beans from which the chocolate is made. The candy manufacturer's response is flawed as a refutation of the consumer health advocate's argument because it

- (A) fails to address the issue of whether the level of caffeine in the candy bars sold by the manufacture is enough to keep people addicted
- (B) assumes without warrant that all unprocessed cacao beans contain a uniform amount of caffeine
- (C) does not specify exactly how caffeine is lost in the manufacturing process
- (D) treats the consumer health advocate's argument as though it were about each candy bar rather than about the manufacturer's candy in general
- (E) merely contradicts the consumer health advocate's conclusion without giving any reason to believe that the advocate's reasoning is unsound

182. The earliest Mayan pottery found at Colha, in Belize, is about 3,000 years old. Recently, however, 4,500-year-old stone agricultural implements were unearthed at Colha. These implements resemble Mayan stone implements of a much later period, also found at Colha. Moreover, the implements' designs are strikingly different from the designs of stone implements produced by other cultures known to have inhabited the area in prehistoric times. Therefore, there were surely Mayan settlements in Colha 4,500 years ago.

Which of the following, if true, most seriously weakens the argument?

- (A) Ceramic ware is not known to have been used by the Maya to make agricultural implements.
- (B) Carbon dating of corn pollen in Colha indicates that agriculture began there around 4,500 years ago.
- (C) Archaeological evidence indicates that some of the oldest stone implements found at Colha were used to cut away vegetation after controlled burning of trees to open areas of swampland for cultivation.
- (D) Successor cultures at a given site often adopt the style of agricultural implements used by earlier inhabitants of the same site.
- (E) Many religious and social institutions of the Mayan people who inhabited Colha 3,000 years ago relied on a highly developed system of agricultural symbols.

183.

Editorial:

Regulations recently imposed by the government of Risemia call for unprecedented reductions in the amounts of pollutants manufacturers are allowed to discharge into the environment. It will take costly new pollution control equipment requiring expensive maintenance to comply with these regulations. Resultant price increases for Risemian manufactured goods will lead to the loss of some export markets.

Clearly, therefore, annual exports of Risemian manufactured goods will in the future occur at diminished levels.

Which of the following, if true, most seriously weakens the argument in the editorial?

- (A) The need to comply with the new regulations will stimulate the development within Risemia of new pollution control equipment for which a strong worldwide demand is likely to emerge.
- (B) The proposed regulations include a schedule of fines for noncompliance that escalate steeply in cases of repeated noncompliance.
- (C) Savings from utilizing the chemicals captured by the pollution control equipment will remain far below the cost of maintaining the equipment.
- (D) By international standards, the levels of pollutants currently emitted by some of Risemia's manufacturing plants are not considered excessive.
- (E) The stockholders of most Risemia's manufacturing corporations exert substantial pressure on the corporations to comply with environmental laws.

184.

Codex Berinensis, a Florentine copy of an ancient Roman medical treatise, is undated but contains clues to when it was produced. Its first eighty pages are by a single copyist, but the

remaining twenty pages are by three different copyists, which indicate some significant disruption. Since a letter in handwriting identified as that of the fourth copyist mentions a plague that killed many people in Florence in 1148, Codex Berinensis was probably produced in that year.

Which of the following, if true, most strongly supports the hypothesis that codex Berinensis was produced in 1148?

- (A) Other than Codex Berinensis, there are no known samples of the handwriting of the first three copyists.
- (B) According to the account by the fourth copyists, the plague went on for ten months.
- (C) A scribe would be able to copy a page of text the size and style of Codex Berinensis in a day.
- (D) There was only one outbreak of plague in Florence in the 1100's.
- (E) The number of pages of Codex Berinensis produced by a single scribe becomes smaller with each successive change of copyist.

185.

Near Chicago a newly built hydroponic spinach "factory," a completely controlled environment for growing spinach, produces on 1 acre of floor space what it takes 100 acres of fields to produce. Expenses, especially for electricity, are high, however, and the spinach produced costs about four times as much as washed California field spinach, the spinach commonly sold throughout the United States.

Which of the following, if true, best supports a projection that the spinach-growing facility near Chicago will be profitable?

- (A) Once the operators of the facility are experienced, they will be able to cut operating expenses by about 25 percent.
- (B) There is virtually no scope for any further reduction in the cost per pound for California field spinach.
- (C) Unlike washed field spinach, the hydroponically grown spinach is untainted by any pesticides or herbicides and thus will sell at exceptionally high prices to such customers as health food restaurants.
- (D) Since spinach is a crop that ships relatively well, the market for the hydroponically grown spinach is no more limited to the Chicago area than the market for California field spinach is to California.
- (E) A second hydroponics facility is being built in Canada, taking advantage of inexpensive electricity and high vegetable prices.

186.

Offshore oil-drilling operations entail an unavoidable risk of an oil spill, but importing oil on tankers presently entails an even greater such risk per barrel of oil. Therefore, if we are to reduce the risk of an oil spill without curtailing our use of oil, we must invest more in offshore operations and import less oil on tankers.

Which of the following, if true, most seriously weakens the argument above?

- (A) Tankers can easily be redesigned so that their use entails less risk of an oil spill.

- (B) Oil spills caused by tankers have generally been more serious than those caused by offshore operations.
- (C) The impact of offshore operations on the environment can be controlled by careful management.
- (D) Offshore operations usually damage the ocean floor, but tankers rarely cause such damage.
- (E) Importing oil on tankers is currently less expensive than drilling for it offshore.

187.

Automobile Dealer's Advertisement:

The Highway Traffic Safety Institute reports that the PZ 1000 has the fewest injuries per accident of any car in its class. This shows that the PZ 1000 is one of the safest cars available today.

Which of the following, if true, most seriously weakens the argument in the advertisement?

- (A) The Highway Traffic Safety Institute report listed many cars in other classes that had more injuries per accident than did the PZ 1000.
- (B) In recently years many more PZ 1000's have been sold than have any other kind of car in its class.
- (C) Cars in the class to which the PZ 1000 belongs are more likely to be involved in accidents than are other types of cars.
- (D) The difference between the number of injuries per accident for the PZ 1000 and that for other cars in its class is quite pronounced.
- (E) The Highway Traffic Safety Institute issues reports only once a year.

188.

When demand for a factory's products is high, more money is spent at the factory for safety precautions and machinery maintenance than when demand is low. Thus the average number of on-the-job accidents per employee each month should be lower during periods when demand is high than when demand is low and less money is available for safety precautions and machinery maintenance.

Which of the following, if true about a factory when demand for its products is high, casts the most serious doubt on the conclusion drawn above?

- (A) Its employees ask for higher wages than they do at other times.
- (B) Its management hires new workers but lacks the time to train them properly.
- (C) Its employees are less likely to lose their jobs than they are at other times.
- (D) Its management sponsors a monthly safety award for each division in the factory.
- (E) Its old machinery is replaced with moderns, automated models.

189.

Studies have shown that elderly people who practice a religion are much more likely to die immediately after an important religious holiday period than immediately before one. Researchers have concluded that the will to live can prolong life, at least for short periods of time.

Which of the following, if true, would most strengthen the researchers' conclusion?

- (A) Elderly people who practice a religion are less likely to die immediately before or during an important religious holiday than at any other time of the year.
- (B) Elderly people who practice a religion appear to experience less anxiety at the prospect of dying than do other people.
- (C) Some elderly people who do practice a religion live much longer than most elderly people who do not.
- (D) Most elderly people who participate in religious holidays have different reasons for participating than young people do.
- (E) Many religions have important holidays in the spring and fall, seasons with the lowest death rates for elderly people.

190.

Manufacturers of mechanical pencils make most of their profit on pencil leads rather than on the pencils themselves. The Write Company, which cannot sell its leads as cheaply as other manufacturers can, plans to alter the design of its mechanical pencil so that it will accept only a newly designed Write Company lead, which will be sold at the same price as the Write Company's current lead.

Which of the following, if true, most strongly supports the Write Company's projection that its plan will lead to an increase in its sales of pencil lead?

- (A) First-time buyers of the mechanical pencils tend to buy the least expensive mechanical pencils available.
- (B) Annual sales of mechanical pencils are expected to triple over the next five years.
- (C) A Write Company executive is studying ways to reduce the cost of manufacturing pencil leads.
- (D) A rival manufacture recently announced similar plans to introduce a mechanical pencil that would accept only the leads produced by that manufacturer.
- (E) In extensive text marketing, mechanical-pencil users found the new Write Company pencil markedly superior to other mechanical pencils they had used.

191.

To evaluate a plan to save money on office-space expenditures by having its employees work at home, XYZ Company asked volunteers from its staff to try the arrangement for six months. During this period, the productivity of these employees was as high as or higher than before.

Which of the following, if true, would argue most strongly against deciding, on the basis of the trial results, to implement the company's plan?

- (A) The employees who agreed to participate in the test of the plan were among the company's most self-motivated and independent workers.
- (B) The savings that would accrue from reduced office-space expenditures alone would be sufficient to justify the arrangement for the company, apart from any productivity increase.
- (C) Other companies that have achieved successful results from work-at-home plans have work forces that are substantially larger than that of XYZ.
- (D) The volunteers who worked at home were able to communicate with other employees as necessary for performing the work.

- (E) Minor changes in the way office work is organized at XYZ would yield increases in employee productivity similar to those achieved in the trial.

192.

Mourdet Winery: Danville Winery's new wine was introduced to compete with our most popular wine, which is sold in a distinctive tall, black bottle. Danville uses a similar bottle. Thus, it is likely that many customers intending to buy our wine will mistakenly buy theirs instead.

Danville Winery: Not so. The two bottles can be readily distinguished: the label on ours, but not on theirs, is gold colored.

Which of the following, if true, most undermines Danville Winery's response?

- (A) Gold is the background color on the label of many of the wines produced by Danville Winery.
- (B) When the bottles are viewed side by side, Danville Winery's bottle is perceptibly taller than Mourdet Winery's.
- (C) Danville Winery, unlike Mourdet Winery, displays its wine's label prominently in advertisements.
- (D) It is common for occasional purchasers to buy a bottle of wine on the basis of a general impression of the most obvious feature of the bottle.
- (E) Many popular wines are sold in bottles of a standard design.

193.

Editorial:

The mayor plans to deactivate the city's fire alarm boxes, because most calls received from them are false alarms. The mayor claims that the alarm boxes are no longer necessary, since most people now have access to either public or private telephone. But the city's commercial district, where there is the greatest risk of fire, has few residents and few public telephones, so some alarm boxes are still necessary.

Which of the following, if true, most seriously weakens the editorial's argument?

- (A) Maintaining the fire alarm boxes costs the city more than five million dollars annually.
- (B) Commercial buildings have automatic fire alarm systems that are linked directly to the fire department.
- (C) The fire department gets less information from an alarm box than it does from a telephone call.
- (D) The city's fire department is located much closer to the residential areas than to the commercial district.
- (E) On average, almost 25 percent of the public telephones in the city are out of order.

194.

A major impediment to wide acceptance of electric vehicles even on the part of people who use their cars almost exclusively for commuting is the inability to use electric vehicles for occasional extended trips. In an attempt to make purchasing electric vehicles more attractive to commuters, one electric vehicle producer is planning to offer customers three days free rental of a conventional car for every 1,000 miles that they drive their electric vehicle.

Which of the following, if true, most threatens the plan's prospects for success?

- (A) Many eclectic vehicles that are used for commercial purposes are not needed for extended trips.
- (B) Because a majority of commuters drive at least 100 miles a week, the cost to the producer of making good the offer would add considerably to the already high price of electric vehicles.
- (C) The relatively long time it takes to recharge the battery of an electric vehicle can easily be fitted into the regular patterns of car use characteristic of commuters.
- (D) Although eclectic vehicles are essentially emission-free in actual use, generating the electricity necessary for charging an electric vehicle's battery can burden the environment.
- (E) Some family vehicles are used primarily not for commuting but for making short local trips, such as to do errands.

195.

A proposed change to federal income tax laws would eliminate deductions from taxable income for donations a taxpayer has made to charitable and educational institutions. If this change were adopted, wealthy individuals would no longer be permitted such deductions. Therefore, many charitable and educational institutions would have to reduce services, and some would have to close their doors.

The argument above assumes which of the following?

- (A) Without the incentives offered by federal income tax laws, at least some wealthy individuals would not donate as much money to charitable and educational institutions as they otherwise would have.
- (B) Money contributed by individuals who make their donations because of provisions in the federal tax laws provides the only source of funding for many charitable and educational institutions.
- (C) The primary reason for not adopting the proposed change in the federal income tax laws cited above is to protect wealthy individuals from having to pay higher taxes.
- (D) Wealthy individuals who donate money to charitable and educational institutions are the only individuals who donate money to such institutions.
- (E) Income tax laws should be changed to make donations to charitable and educational institutions the only permissible deductions from taxable income.

196.

An unusually severe winter occurred in Europe after the continent was blanketed by a blue haze resulting from the eruption of the Laki Volcano in the European republic of Iceland in the summer of 1984. Thus, it is evident that major eruptions cause the atmosphere to become cooler than it would be otherwise.

Which of the following statements, if true, most seriously weakens the argument above?

- (A) The cooling effect triggered by volcanic eruptions in 1985 was counteracted by an unusual warming of Pacific waters.
- (B) There is a strong statistical link between volcanic eruptions and the severity of the rainy season in India.
- (C) A few months after El Chichon's large eruption in April 1982, air temperatures throughout the region remained higher than expected, given the long-term weather trends.

- (D) The climatic effects of major volcanic eruptions can temporality mask the general warming trend resulting from an excess of carbon dioxide in the atmosphere.
- (E) Three months after an early springtime eruption in South America during the late 19th century, sea surface temperatures near the coast began to fall.

197.

To persuade consumers to buy its personal computers for home use, SuperComp has enlisted computer dealers in shopping centers to sell its product and launched a major advertising campaign that has already increased public awareness of the SuperComp brand. Despite the fact that these dealers achieved dramatically increased sales of computers last month, however, analysts doubt that the marketing plan is bringing Super Comp the desired success.

Which of the following, if true, best supports the claim that the analysts' doubt is well founded?

- (A) In market surveys, few respondents who had been exposed to SuperComp's advertising campaign said they thought there was no point in owning a home computer.
- (B) People who own a home computer often buy a second such computer, but only rarely do people buy a third computer.
- (C) SuperComp's dealers also sell other brands of computers that are very similar to SuperComp's but less expensive and that afford the dealers a significantly higher markup.
- (D) The dealers who were chosen to sell SuperComp's computers were selected in part because their stores are located in shopping centers that attract relatively wealthy shoppers.
- (E) Computer-industry analysts believed before the SuperComp campaign began that most consumers who already owned home computers were not yet ready to replace them.

198.

A factory was trying out a new process for producing one of its products, with the goal of reducing production costs. A trial production run using the new process showed a 15 percent reduction in costs compared with past performance using the standard process. The production managers therefore concluded that the new process did produce a cost savings.

Which of the following, if true, casts most doubt on the production manager's conclusion?

- (A) In the cost reduction project that eventually led to the trial of the new process, production managers had initially been seeking cost reductions of 50 percent.
- (B) Analysis of the trial of the new process showed that the cost reduction during the trial was entirely attributable to a reduction in the number of finished products rejected by quality control.
- (C) While the trial was being conducted, production costs at the factory for a similar product, produced without benefit of the new process, also showed a 15 percent reduction.
- (D) Although some of the factory's managers have been arguing that the product is outdated and ought to be redesigned, the use of the new production process does not involve any changes in the finished product.
- (E) Since the new process differs from the standard process only in the way in which the stage of production are organized and ordered, the cost of the materials used in the product is the same in both processes.

199.

Vitacorp, a manufacturer, wishes to make its information booth at an industry convention more productive in terms of boosting sales. The booth offers information introducing the company's new products and services. To achieve the desired result, Vitacorp's marketing department will attempt to attract more people to the booth. The marketing director's first measure was to instruct each salesperson to call his or her five best customers and personally invite them to visit the booth.

Which of the following, if true, most strongly supports the prediction that the marketing director's first measure will contribute to meeting the goals of boosting sales?

- (A) Vitacorp's salespeople routinely inform each important customer about new products and services as soon as the decision to launch them has been made.
- (B) Many of Vitacorp's competitors have made plans for making their own information booths more productive in increasing sales.
- (C) An information booth that is well attended tends to attract visitors who would not otherwise have attended the booth.
- (D) Most of Vitacorp's best customers also have business dealings with Vitacorp's competitors.
- (E) Vitacorp has fewer new products and services available this year than it had in previous years.

200.

Outsourcing is the practice of obtaining from an independent supplier a product or service that a company has previously provided for itself. Since a company's chief objective is to realize the highest possible year-end profits, any product or service that can be obtained from an independent supplier for less than it would cost the company to provide the product or service on its own should be outsourced.

Which of the following, if true, most seriously weakens the argument?

- (A) If a company decides to use independent suppliers for a product, it can generally exploit the vigorous competition arising among several firms that are interested in supplying that product.
- (B) Successful outsourcing requires a company to provide its suppliers with information about its products and plans that can fall into the hands of its competitors and give them a business advantage.
- (C) Certain tasks, such as processing a company's payroll, are commonly outsourced, whereas others, such as handling the company's core business, are not.
- (D) For a company to provide a product or service for itself as efficiently as an independent supplier can provide it, the managers involved need to be as expert in the area of that product or service as the people in charge of that product or service at an independent supplier are.
- (E) When a company decides to sue an independent supplier for a product or service, the independent supplier sometimes hires members of the company's staff who formerly made the product or provided the service that the independent supplier now supplies.

201.

State spokesperson: Many businesspeople who have not been to our state believe that we have an inadequate road system. Those people are mistaken, as is obvious from the fact that in each of the past six years, our state has spent more money per mile on road improvements than any other state.

Which of the following, if true, most seriously undermines the reasoning in the spokesperson's argument?

- (A) In the spokesperson's state, spending on road improvements has been increasing more slowly over the past six years than it has in several other states.
- (B) Adequacy of a state's road system is generally less important to a businessperson considering doing business there than is the availability of qualified employees.
- (C) Over the past six years, numerous businesses have moved into the state.
- (D) In general, the number of miles of road in a state's road system depends on both the area and the population of the state.
- (E) Only states with seriously inadequate road systems need to spend large amounts of money on road improvements.

202.

Gortland has long been narrowly self-sufficient in both grain and meat. However, as per capita income in Gortland has risen toward the world average, per capita consumption of meat has also risen toward the world average, and it takes several pounds of grain to produce one pound of meat. Therefore, since per capita income continues to rise, whereas domestic grain production will not increase, Gortland will soon have to import either grain or meat or both.

Which of the following is an assumption on which the argument depends?

- (A) The total acreage devoted to grain production in Gortland will not decrease substantially.
- (B) The population of Gortland has remained relatively constant during the country's years of growing prosperity.
- (C) The per capita consumption of meat in Gortland is roughly the same across all income levels.
- (D) In Gortland, neither meat nor grain is subject to government price controls.
- (E) People in Gortland who increase their consumption of meat will not radically decrease their consumption of grain.

203.

Journalist: In physics journals, the number of articles reporting the results of experiments involving particle accelerators was lower last year than it had been in previous years. Several of the particle accelerators at major research institutions were out of service the year before last for repairs, so it is likely that the low number of articles was due to the decline in availability of particle accelerators.

Which of the following, if true, most seriously undermines the journalist's argument?

- (A) Every article based on experiments with particle accelerators that was submitted for publication last year actually was published.
- (B) The average time scientists must wait for access to a particle accelerator has declined over the last several years.
- (C) The number of physics journals was the same last year as in previous years.

- (D) Particle accelerators can be used for more than one group of experiments in any given year.
- (E) Recent changes in the editorial policies of several physics journals have decreased the likelihood that articles concerning particle-accelerator research will be accepted for publication.

204.

An eyeglass manufacturer tried to boost sales for the summer quarter by offering its distributors a special discount if their orders for that quarter exceeded those for last year's summer quarter by at least 20 percent. Many distributors qualified for this discount. Even with much merchandise discounted, sales increased enough to produce a healthy gain in net profits. The manufacturer plans to repeat this success by offering the same sort of discount for the fall quarter.

Which of the following, if true, most clearly points to a flaw in the manufacturer's plan to repeat the successful performance of the summer quarter?

- (A) In general, a distributor's orders for the summer quarter are no higher than those for the spring quarter.
- (B) Along with offering special discounts to qualifying distributors, the manufacturer increased newspaper and radio advertising in those distributors' sales areas.
- (C) The distributors most likely to qualify for the manufacturer's special discount are those whose orders were unusually low a year earlier.
- (D) The distributors who qualified for the manufacturer's special discount were free to decide how much of that discount to pass on to their own customers.
- (E) The distributors' ordering more goods in the summer quarter left them overstocked for the fall quarter.

205.

Consumer advocate: it is generally true, at least in this state, that lawyers who advertise a specific service charge less for that service than lawyers who do not advertise. It is also true that **each time restrictions on the advertising of legal services have been eliminated, the number of lawyers advertising their services has increased and legal costs to consumers have declined in consequence.** However, eliminating the state requirement that legal advertisements must specify fees for specific services would almost certainly increase rather than further reduce consumer's legal costs. Lawyers would no longer have an incentive to lower their fees when they begin advertising and **if no longer required to specify fee arrangements, many lawyers who now advertise would increase their fees.**

In the consumer advocate's argument, the two portions in **boldface** play which of the following roles?

- (A) The first is a generalization that the consumer advocate accepts as true; the second is presented as a consequence that follows from the truth of that generalization.
- (B) The first is a pattern of cause and effect that the consumer advocate argues will be repeated in the case at issue; the second acknowledges a circumstance in which that pattern would not hold.

- (C) The first is pattern of cause and effect that the consumer advocate predicts will not hold in the case at issue; the second offers a consideration in support of that prediction.
- (D) The first is evidence that the consumer advocate offers in support of a certain prediction; the second is that prediction.
- (E) The first acknowledges a consideration that weighs against the main position that the consumer advocate defends; the second is that position.